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An Address On "LORD LISTER."

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In 1890 it was my privilege to be a guest of the Surgical Society of Germany at a dinner in Berlin, in connection with the Tenth Session of the International Medical Congress. In the Winter Garden of the Central Hotel, eleven hundred medical men, including many of the leading surgeons of the world, were gathered together. One representative of each nation responded to the welcome expressed by the President. Sir James Paget spoke for Great Britain, and received, as was his due, a most honourable reception. The audience, however, was not satisfied. Cries arose of "Lister," at first here and there, but soon general; and, at a sign from the President, Lister rose, and with his first words, "Meine Herren," there came from the great assemblage a loud shout of gratified delight as of a people acclaiming a god. What was the meaning of this marvellous demonstration? It was an utterance of world-wide thanks for Deliverance and Freedom. Other deliverers have arisen throughout the ages, but in most instances their beneficent activity has been circumscribed. It has affected a nation, a race, a sect, a class. It has freed the slave, it has brought light and hope into the prison, it has rescued the women and children toiling in the mines. Other great deliverances have been wrought from the terrors of disease and pain. Jenner brought protection from the horrors of smallpox. To Long and Wells and Morton and Simpson we owe the boon of anaesthesia. But what deliverance has been so universal, so profound, so complete, so far-reaching as the abolition of surgical fever by the methods of Lister? Till he showed the path of safety, the fear of surgical fever was the obsession of the surgeon. Calamity dogged the steps of the accoucheur and the midwife. The ravage of the battlefield was intensified by the deadly infections that swept away the wounded. Time soon blurs our impressions, so that simple statements of fact appear exaggerated. These days of disaster seem far from us. Let me then recall some experience of my own. In the Australian Medical Journal for March, 1882, I published notes of recent fatal cases of septic infection in the Melbourne Hospital, in each of which I made a post-mortem examination. A revolver wound in the leg was followed by diffuse cellulitis. A scalp wound led to cellulitis and suppuration around the articulation of the lower jaw, with infection of the middle ear, spreading to the membranes of the brain. A

suppurating knee-joint caused diffuse cellulitis of the thigh and septic infection of the veins. A simple fracture of the leg was complicated by bed sores, and these again by septic thrombosis. A penetrating wound of the knee-joint was followed by sloughing and thrombosis, and septic infection of the pleura. A gunshot wound of the foot proved rapidly fatal by spreading gangrene. A gunshot wound of the arm led the way to septic pleurisy and pericarditis. A compound fracture of the tibia was followed by secondary gangrene of the arms. All these cases occurred in the ordinary practice of a civil hospital within a short space of time. Three years later, in October, 1885, five persons underwent operations in the Melbourne Hospital within one day. Four of them died of pyaemia or erysipelas or spreading suppuration. In one of them, an obscure infection was probably present before the operation. It was thought that the septic mischief was carried from this case to the others by the dressers. I made a post-mortem examination of the two who died first, and both my arms were seriously infected, though there was no breach of surface. These are but instances of the occasional outbreaks that caused dismay in hospitals, occurring in the midst of generally successful practice, but they show how narrow was the margin of safety, how readily the daily round of routine was interrupted by tragedy.

The problem had baffled all generations of surgeons. Over and over again they had pondered on the difference between the quiet sure repair of a simple fracture of bone, and the deadly dangers of a compound fracture. Delpech, Stromeyer, Jules Guerin and others practised subcutaneous operations. Our own great surgeon, the late Sir Thomas Fitzgerald, brooding over this problem, had been led to adopt quite a system of subcutaneous operations, so as to prevent the access of air; but from him as from others, the explanation of his own results was hidden. Bilguer in 1764 filled the recesses of wounds with antiseptics, and covered the wounds with lint soaked in antiseptic solutions. Corne and Demeaux in 1858, and Lemaire in 1860, used coal tar powders and emulsions. Bennion, of Oswestry, attempted to form an antiseptic scab. But they had not grasped the true inwardness of the problem, and their work was relatively unfruitful. The great surgeons of the past, glorious masters of technique, would have been horrified at the thought that their own hands and their instruments carried infection into the wounds which they made. Semmelweis, of Vienna, who was Lister's great forerunner, after showing the way to prevent puerperal infection, was driven to desperation by opposition and calumny, and died in a madhouse, discredited and forgotten, in the very year that Lister first applied the antiseptic method to a compound fracture. It was amidst vague speculation, amidst an atmosphere of prejudice and

prepossession, that Lister established the real nature of surgical infection, and invented a new technique, which, when faithfully followed, enables a comparative tyro to attain results beyond the reach of the most splendid surgeons of previous days.

What manner of man was Lister, and how did the discovery come to him? Judging by ancient canons, which subordinated everything else to speed and brilliance, some authorities did not consider him a surgeon of the very highest technical skill, though he could, when he so desired, throw aside his deliberate methods and be brilliant with the best. He was, however, something far better than a brilliant surgeon. A man of philosophic insight, trained under Sharpey and Graham in experimental methods, already renowned for his study of the process of inflammation, with honest eyes open to the researches of others, a man of indomitable courage and perseverance, brimming over with benevolence and loving kindness; above all, a man with a great idea, which he expressed early, that he who could discover a means to prevent surgical fever would "gain for himself undying fame." It was generally recognised that decomposition or putrefaction was a source of great mischief in surgery, and many surgeons had used antiseptics. Lister's early researches led him to a wider view of the evil; and about 1862 he publicly taught that the occurrence of suppuration in a wound was determined simply by the influence of decomposing organic matter. To him, so prepared, came early in 1865 the knowledge of the researches of Pasteur, already nearly ten years in progress, on living ferments, specific for each type of fermentation, on the floating matter of the air, and above all on the absence of putrescence in sterilised broth hermetically sealed in glass capsules or otherwise protected from contamination. Here was the master thought. The proved utility of carbolic acid in preventing decomposition of sewage gave a means of applying the thought, though carbolic acid was still a crude substance, not yet purified by the work of Calvert. Between 1865 and 1867 Lister was able to demonstrate compound fractures healing quietly under a carbolised scab, without risk of infection, almost as quickly as if the fractures were simple. Amidst good report and evil report he went his way, developing and improving his methods, correcting his theory, discarding procedure that proved unnecessary, perfecting detail, eagerly welcoming the discoveries of others, until the true roads of infection were definitely established, and the essentials of the protective technique were realised in the simplest form. I need not remind you of the patient advance from the swab of crude carbolic acid to the carbolised putties and plasters, the introduction of the carbolized and chromicized, and lately the iodized ligatures, the rubber drainage tube, the various forms of protective, the coming and going of the antiseptic spray, the use of antiseptic gauze and wool in all their forms, the varied treatment of the skin of the patient and of the hands of the operator. As regards theory, attention at first was concentrated

on the occurrence of putrefaction in wounds; but knowledge soon began to accumulate concerning specific bacterial causes of suppuration, that might cause deadly infection without any sign of septic decomposition of discharges. I well remember a case of amputation of the tongue in which the stump was clean, but the patient died of intense pyaemia. Subsequently the careful classification of micro-organisms according to their relative innocence or pathogenic power explained how it was that wounds treated antiseptically often healed perfectly, though bacteria were present in the discharges. Similarly I need not describe the later rise of aseptic surgery as contrasted with antiseptic surgery. By either system wounds are protected from the germs of putrefaction and from the more deadly pathogenic microbes. Lister's simplest methods sufficed, and he constantly pleaded for simplicity.

By 1870 success was assured. By 1880 it was generally recognised. In Victoria, Mr. Gillbee, one of the surgeons of the Melbourne Hospital, read in 1867 a paper before the Medical Society of Victoria on the treatment of abscess and compound fracture by Lister's method. Chlorinated soda was in use in the wards in 1863, carbolic acid and glycerine in 1865, carbolic lotion in 1868. Progress was slow. At the beginning of 1872 Dr. Edwin Hinchliff, a recent graduate of the University of Edinburgh, was Resident Medical Officer of the Melbourne Hospital, and introduced the spray and much of Lister's procedure. In February, 1872, Mr. W. H. Jenkins, M.R.C.S., formerly assistant surgeon to H.M. 14th and 84th Regiments, and late Resident Surgeon of the Hamilton Hospital, read a paper before the Medical Society of Victoria, describing and demonstrating Lister's methods, which he had recently studied in England at the Stamford and Rutland Infirmary. On his return to Victoria a few months before the date of this paper, he had found that Lister's gauze, mackintosh and oil silk were not obtainable commercially in Melbourne. A fortnight after the reading of the paper, Mr. Gillbee did an amputation below the knee successfully under the spray. The following year, 1873, I became Mr. Gillbee's dresser, but there was still no proper performance of Lister's method, though antiseptics were used freely. Many surgeons, who tried the new modes soon abandoned them. In the later seventies, Mr. T. M. Girdlestan and Mr. J. H. Webb and others were earnestly pursuing Lister's system, but experienced difficulty in matters of detail. In the beginning of 1878 Dr. G. Le Fevre, who had been one of Lister's dressers, came to Melbourne, and was soon made outdoor surgeon to the Melbourne Hospital. He explained the details of the method to his colleagues, and thereafter the system was systematically carried out by many surgeons in every suitable case, but still for some years its adoption was by no means universal. In 1882 there was a serious outbreak of septic disease in the hospital to which I have already alluded, and Dr. J. W. Barrett, who was then Resident Medical Officer, was able to show that septic troubles never arose when Lister's methods were scrupulously followed.

The publication in 1882 of Watson Cheyne's work on Antiseptic Surgery (which was at once reviewed by me in two numbers of *The Australian Medical Journal*) brought before the profession and the public in Anglo-Saxon communities in most convincing fashion the marvellous results that had been obtained both in Great Britain and on the Continent. One instance must suffice. Professor Nussbaum, surgeon to the General Hospital at Munich, had the distressing experience that, during the sixteen years that he had charge of the hospital, pyaemia was never absent for a single month. Erysipelas was constantly present. In 1872 hospital gangrene appeared, and attacked 26 per cent. of all wounds. In 1873 the proportion increased to 50 per cent. In 1874 80 per cent. of the wounds developed hospital gangrene. In despair, Nussbaum sent one of his assistants to Lister to learn the details of his method. Thereafter all wounds were treated with strict Listerian precaution. Without any other change in the management of the hospital, the results were revolutionized. Hospital gangrene at once became a thing of the past. A few cases of erysipelas and pyaemia occurred, but these diseases soon disappeared as the methods were more perfectly grasped. Nussbaum's experience was dramatically sudden, but otherwise it was not singular. From that time onward, throughout the world, in proportion as the technique was mastered and accurately carried out, surgical fever in all its forms disappeared. Deliverance was complete.

Lister's second gift of Freedom was now realised. It manifested itself first in a great extension of the sphere of conservative surgery. Injuries that in former days necessitated amputation, itself so fatal in its results, might be left to the quiet reparative powers of Nature, when the dread of septic infection was removed. Disease became controllable by limited surgical interference. But the new gift brought far more than a mere encouragement of conservative work. The surgeon was at liberty to expand his art, to attack problems previously insoluble. A new surgery of the abdomen, the brain, the spinal cord, the heart, the bloodvessels, the lungs, and other organs came rapidly into existence, and the end of the movement is still far off. The obstetrician and the gynaecologist shared in the advance. Now that the lying-in hospitals were freed from the terrors of puerperal fever, gynaecologists could boldly attack the complications of pregnancy, and cultivate new fields of operative work. Tasks that would have daunted the highest skill and courage were brought within the reach of men of moderate capacity, and here again the end is not in sight.

The new freedom had another most important issue. The debt that Lister owed to his own training in experimental science, the debt he owed to the experimental researches of others, he was able to repay in overflowing measure. The new conceptions, the new technique, that brought understanding and safety into surgery as applied to men and women, also removed the difficulties and dangers of the

experimental physiologist and pathologist. Their researches were freed from the complications and losses due to infection, and they were enabled to push their enquiries far more deeply and with more precision than in the days when septic troubles confronted them at every step. Herein the gift that Lister brought is of endless value.

But what of the future? On every hand we are beset by difficulties. New light of knowledge reveals unimagined shadows of ignorance. With apparently equal exposure to infection, why does one man or one organ suffer while others escape? Wherein does protection from tuberculosis consist? How may we control the subtle infections called rheumatic? How may we prevent or repel the growth of cancer? The problem that Lister solved so triumphantly now seems to us relatively simple; but only to one man with special insight was the solution given. Where are the men with the direct outlook of the simple, the rapt vision of the inspired, to find for us the hidden answer to our involved questions, to open the way to the Ultima Thule of our aspirations—the perfection of our powers to prevent and to heal? He who can put our questions in simple form without prejudice will probably have his face directed towards the goal of discovery. Our heart's desire is that new leaders may speedily arise, with the philosophic insight, the experimental skill, the resolute determination, the loving kindness that were the glory of Lister. A tomb was offered for him in the Abbey of Westminster, among Britain's noblest and worthiest, but according to his own wishes it was modestly declined. His shrine is in the hearts of those who worship his memory, as we do to-day, adding our tribute of gratitude and affection to the world's thanksgiving for a great deliverance, a great freedom, a great example.

MEDICINE IN CHINA.

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China is a vast country, extending from latitude 50 to latitude 20. It may be divided roughly into three regions: (1) Northern, temperate; (2) Central, sub-tropical; and (3) Southern, tropical. Each of these differ from the others in climate, the characteristics and diet of the people, and in the incidence of diseases. The northern temperate region, of which alone I shall speak, lies largely outside of the area of what we call "tropical diseases."

Climate.

In the north, extremes of both heat and cold are met. The bulk of the rainfall comes in tropical rains during the summer, producing very trying climatic conditions. In winter there is a hard frost every night, and the ground is frozen for several feet down from the surface. The temperature sometimes drops to 4 deg. F. There are three or four falls of snow during the winter, but generally there is bright sunlight in the daytime, and the climate is keen, dry, and bracing. There is little spring and autumn weather; the change from winter to summer is often uncomfortably rapid.

People.

The Northerners are generally considered to be more solid in character, and also more conservative than their

more vivacious and enterprising brethren in the south. They are also hardier in physique; the best soldiers are from the north.

Diet.

In the north the diet is almost exclusively vegetable. The ordinary people eat very little meat. Rice is not grown there, and is therefore a luxury with the poorer classes. The chief grains are the various kinds of millet, either boiled up into a sort of thin porridge or ground into flour and made into large cakes. Wheat is also made up in various forms. Their bread is cooked by steaming, and is therefore rather close in texture, and heavy. Maize flour is also used.

Vegetables are extensively eaten, both fresh and pickled. The vegetables chiefly used are cabbage, spinach, sweet potatoes, peas, garlic, and onions, beet, turnips, and carrots.

For beverages they use weak tea (without sugar or milk), which is drunk very hot, and boiling water.

Chinese Medicine.

When we remember that China enjoyed a highly-developed civilisation at a period when our forefathers were savages clothed in skins, we might expect to find that the Chinese had attained some proficiency in the knowledge of the structure and life-processes of the body and the treatment of diseases. One student of Chinese literature notices 59 treatises of a medical and physiological character. These contain references to a far greater number of authors, some of whom flourished in the earliest days of China, and many of whose writings exhibit good sense and sound advice amid the strangest theories. Human dissection and post-mortem examination have always been taboo; any mutilation of the body being considered a grave injury to its promoters and the worst breach of the obligation of filial piety and regard for ancestors. So it is little wonder that anatomical description is vague and often incorrect. The Chinese make no distinction between veins and arteries, venous and arterial blood, nor between muscles and nerves—the same term being used for both tendons and nerves.

The brain is held to be the abode of the soft, or female, propensities known as Yin. The lungs are said to consist of six lobes or leaves, provided with holes, from which sound proceeds. The epigastrium is the seat of breath and joy and delight emanates from this region. The soul is supposed to reside in the liver. The gall-bladder ascends when the person is angry, and bile is said to impart courage. Food passes into the spleen, and thence through the stomach and pylorus into the small intestines.

The small intestines are connected with the heart, and the urine passes through them into the bladder, separating from the faeces at the caput coli. The large intestines are connected with the lungs and lie in the loins, having 16 convulsions.

The kidneys are attached to the spinal marrow; the subtle generative fluid is eliminated by them above to the brain and below to the spermatic cord and sacral extremity; the testes, called "outside kidneys," communicate with them. The right kidney, or the passage from it, is called "the gate of life," and sends forth the subtle fluid to the spermatic vessels. The bladder lies below the kidneys, and receives the urine from the ileo-caecal junction.

The osteology of the frame is briefly despatched; the pelvis, skull, forearm and leg are considered as single bones, and the whole considered merely as a kind of internal frame-work, on and in which the necessary fleshy parts are upheld.

The Chinese conceptions of the circulation of blood are varied, curious, and complicated.

The pulse is very carefully studied, and its condition regarded as the index of every condition of the body, even to determine the sex of an unborn infant. Great parade is usually made by every practitioner in examining this important sign. It is the common thing for a patient, after you have examined the pulse at one wrist, to present the other for examination. I always make a point of examining that one as well; there is no use in wrecking your patient's doubtful confidence in you at the very outset.

When disease arises it is supposed to be due to a dispute between the twin powers of nature, named respectively Yang and Yin, or male and female, the presence of bad humours, or the more powerful agency of evil spirits, and until these agencies are corrected, medicines cannot exercise their full efficacy. The surface of the body receives the closest attention, for there is not a square inch without its appropriate name. Plasters and lotions are applied to these places according to the diagnosis of the disease. The practitioner generally administers both the rationale and the dose together, considering, probably that the medicine would lose half its efficacy upon the organs it was intended to affect if it were not mixed with faith to act upon the sentient principle lodged there.

Pharmacology.

In the Pen Ts'ao—or collection of animal, vegetable, and mineral materia medica found in China—there are 1892 drugs. These include rhubarb, ginger, aconite, gentian, anise, camphor, myrrh, opium, and suchlike common drugs of our Western Pharmacopoeia. Outside these vegetable drugs many strange and repulsive substances are employed. Almost anything that is disgusting is considered good as a medicine. Our servants in the country used to busy themselves in the summer evenings hunting for scorpions by candle-light; these were sold to the village drug-shop. On the market in Peking I saw bears' feet, stag's horns, a pile of dried rats—all for medicine. Silk-worm secretions, moths, human urine, and menstrual discharge, are all potent remedies. The most popular tonic is tiger's bones, taken either as pill or tincture. The rationale is obvious; the tiger is the strongest animal; the bone is the strongest part of the animal, therefore tiger's bones contain the quintessence of strength, and are a sovereign remedy for all conditions of weakness. The test of their purity is just as simple: throw the bone before a dog; if he growls and bristles up it is the genuine article.

Practice of Medicine.

Chinese doctors are divided roughly into two classes, the "internal body" doctors, and the "outside body" doctors—just as we divide physicians and surgeons. Patients sometimes suffer because of this differentiation. For instance, a Chinese carpenter pierced his foot with an ugly splinter. An "outside doctor" being at hand offered for the usual fee to attend to the foot. The fee being paid the splinter was promptly cut off level with the surface of the foot, and then a plaster made and stuck on. The patient being still in great pain, asked if the splinter were out. The only reply he received was that the doctor, not being an "inside doctor," would not presume to remove the rest of the wood.

The Chinese freely admit the superiority of our Western surgical methods, but still prefer their own doctors for "inside" treatment. These certainly have some proficiency in the use of vegetable drugs. For one reason their doses are always large; a certain quantity of the ingredients has to be boiled in a large quantity of water, and generally a large bowl of the decoction is then taken hot, and the patient goes to bed and heaps clothes upon himself. The result, of course, is a free perspiration—evident proof that the medicine is doing its work. By comparison a grain of calomel or grey powder lacks in impressiveness, so does a drop of croton oil—at first.

It is in surgery that the Chinese exhibit the greatest ignorance, and practice the most shocking methods of treatment.

The treatment in which they revel is that of acupuncture. According to their books there are 367 places in the human body into which "needles" can be inserted without harm—including the neighbourhood of the great joints, the region of the stomach, and the orbit. The point of insertion, the depth, and the direction are all important, and the method is usually to drive them through the distended skin by a blow from a light mallet. Sometimes heat is applied to the outer end of the needle, and this is called "hot acupuncture," but it is never heated before insertion. Occasionally the needle is left in the flesh for days together. The rationale is that by making these stabs the "wind or humour" will be let out, or the evil spirit which is imprisoned at the painful spot, is provided with an exit.

The needle is never sterilised, and frequently the result is that a simple inflammatory process is converted into a septic one. For headache the drum of the ear is not infrequently punctured.

The actual cautery is often applied to ulcers, or they may be vigorously scraped and scarified.

Counter-irritation is generally applied by pinching. We commonly see patients suffering from sore-throats with the skin of their throats black and blue, or for headache the skin of the forehead is similarly treated.

Most lamentable results follow the treatment prescribed for an abscess. As soon as it "points" a large black pitch plaster is applied to prevent the escape of the pus. The pus borrows in all directions, often entailing widespread destruction of the tissues.

Ophthalmic surgery is almost always in the hands of old women. The commonest treatment is to stir up the conjunctiva, both bulbar and palpebral, by picking at it with a needle. The result is a great overgrowth of sub-conjunctival tissue and frequently symblepharon.

The castration of eunuchs is performed by tying a cord tight round the genitalia for some hours till the circulation has practically ceased, they are then removed with one sweep of the knife. Thereafter a lead nail, with an expanded end is worn constantly in the remains of the urethra to keep it patent; even so a number came to us for the dilation of strictures due to the contraction of the surrounding cicatrical tissue.

Inoculation for smallpox by inserting in the nostrils a scab from a smallpox patient was formerly practiced extensively, often with fatal results. Vaccination with human lymph is now practised by Chinese doctors. The lymph is taken from the vesicles on the human body or bone points, which are dried and capped with a quill; later the patient's skin is scratched with this point.

Obstetrics.—In China, no man is allowed to enter the lying-in room for a month; to do so is sure to cause ill-fortune, failure of crops, loss of money and other goods, upon the man and his family.

Midwifery in China is in the hands of old women—the older the better, because of their wider experience. They are often feeble, toothless, old crones, and sometimes almost blind.

We are never called to an obstetrical case until labour has continued for two or three days, and, after passing through the hands of a succession of midwives the patient is "in extremis." I always take a bag full of instruments—forceps, perforator, cranioclast, etc., with me. The few cases we do see shed a lurid light on the sufferings of the women of China.

My first case was that "rara avis" of our experience, a normal primipara in the first day of labour. The scene was typical of a normal labour, and deserves description as a record of the usual conditions of child-birth in the north.

In the outer room was the husband—one of our schoolboys (hence the early call for our help), aged 16 or 17—looking very sheepish. The inner room was ten feet by ten feet, the window shut, and all the cracks pasted over with red paper to exclude the cold air; the door covered with a hanging curtain. It was lighted by a small smoky oil-lamp, and heated by an open coal-stove, the fumes from which all escape into the room. Six feet of the room was occupied by the raised brick-bed. On this bed was the patient—a big girl of 15 or 16—sitting in a semi-recumbent position, supported by a woman behind her, who squatted cross-legged on the bed. The bed was covered with matting, and one or two thicknesses of wadded quilts. The girl had on her short wadded coat, and was seated in a heap of sifted earth. This earth (they will tell you) is so cleanly because it catches and holds the discharges, and so the precious quilts are not soiled. Squatted between the thighs of the patient was a wrinkled old woman with white hair and unspeakable hands, scratching inside the vagina to "help the child out." The pudenda and thighs were covered with blood and mud; the vulva was purple and oedematous from the vigorous manipulations of the midwife.

As an instance of the tremendous hold which popular usage has upon a people, I would refer to a nurse in our

women's hospital, who was educated from childhood in our girls school, and was sent later for two years' training in the women's hospital in Peking. As she had a little difficulty in her confinement I was called to help, and found her seated in the usual heap of sifted earth, despite all her training in aseptic methods.

Insanity.—The treatment of the insane in China is very cruel. They are regarded as dangerous, put in a room of an outhouse, and the door walled up—all but a small window. Food is passed in through this hole, and the patient lives the life of an animal until death brings a happy release. Needless to say, practically none recover.

Lepers also are treated as outcasts. They sleep in way-side temples, and beg for a living. There is no attempt at proper isolation and treatment. Rarely lazarettos are provided, but even then the lepers have to depend on friends for food, fuel, and clothes.

Superstition.

In all this appalling ignorance and quackery, superstition takes a prominent place, and is responsible for much of the absurd and debasing practices that are carried on in the search for healing.

Charms, incantations, and ceremonies in which Taoist priests take a large share, are all supposed to be efficacious in ridding the sick person of one or other of the malignant spirits which are believed to have caused the sickness. Sometimes a charm is written on red paper, rolled into a ball, and swallowed.

In one of the temples of Peking is a brass horse. Sick people come to rub the part of the animal corresponding to the part of themselves which is affected, and then burn incense before the idol. The eyes of the horse are almost rubbed away.

Foochow has a god which is able, according to the sign outside the temple, to cure "every disease known to the human race. A doctor watched a woman there who seemed to be in the last stage of tuberculosis. She came in and kowtowed before the god, and then took from a small bowl a rod with a certain number on it. Then kowtowing again she picked up two pieces of bamboo root, with one side flat and one round, threw them up in the air, bowed her head to the ground, and then looked at the bamboo roots as they had fallen. They had fallen, she saw, with both smooth sides up. That showed that the number she had chosen was wrong. So she chose another number, again kowtowed, and prayed, and threw the roots up in the air. They came down, one flat and one round. That was the right number. She turned to the priest, handed him the number, and paid him money. He drew out prescription No. 13 from the drawer, and gave it to her to have made up at the drug shops. This surely would cure her, for had not the god shown her the right number.

Chinese Doctors.

There is a Chinese proverb which aptly shows the opinion the Chinese hold with reference to their medical profession: "Medicine, fortune-telling, astrology, physiology, are taken up as a trade or profession (for diversion) by scholars—the last named only is respectable."

Anyone may set up as a doctor in China; he passes no examination, and requires no qualification. He obtains a pair of large Chinese spectacles, buys one or two medical books, and a few drugs, hangs out a sign, puts on a thoughtful expression, and is held to be fit to practice.

The doctor most entitled to confidence in the sight of his countrymen is the man whose father was a doctor before him, and the confidence increases should his grandfather have followed the same calling. This, it might be supposed, was due to an ignorant belief in the influence of heredity, but, as it is stated by the Chinese, the value in their eyes consists in the son or grandson possessing all the books of prescriptions of his sires. Thus provided, he is ready to begin his empirical career. A servant in a missionary's employ left suddenly because his grandfather, who was a native doctor, had died, and he was to take up his practice at once. Within 24 hours the erstwhile servant had donned a new silk coat, cloth waistcoat, and peacock green trousers, and with the addition of spectacles was the fully-fledged doctor.

Often a man who has failed in some other calling decides to take up medicine. Our hospital coolie was dismissed after two years' service because of inefficiency. He set up in a neighbouring town as an exponent of Western medicine, and was making a reputation on mag. sulph., quinine, santonin, and slitting open abscesses and fistulae-in-ano.

When a doctor is called to a patient he pays a visit, prescribes, receives his fee, and leaves. He returns to make another visit if invited, not otherwise. It is more common, if the patient is not at once benefited by the prescription, to call in another doctor, then a third and a fourth, and so on. So naturally the treatment tends to be of an heroic nature. One can readily understand that much of a doctor's success in China depends upon his making a "reputation." According to Chinese notions the most appropriate way in which a patient may express his gratitude for benefit received, is to present the doctor with a "complimentary tablet." These tablets are often hung on the outside wall of the doctor's residence, and serve as testimonials to his skill.

I myself have been presented with one of these tablets, which now hangs on the walls of the hospital. The inscriptions are couched in extravagant terms. There are, however, certain drawbacks to the receiving of such a gift, inasmuch as the donors and guests expect to be invited to a feast, and numerous individuals are open to receive gratuities.

Hygiene and Sanitation.

Privies are generally built in the small court of the house, often quite close to the living rooms. In the mud floor there is a small hole dug and a brick placed on either side for the feet to rest on—defaecation is always performed in the squatting position. The urine sinks into the ground; the faeces are carried away at intervals for use as manure—often on vegetable gardens. Infants have the lower part of the body enclosed in a bag, which is half filled with sifted earth. This is changed occasionally, and saves diapers.

The water supply is from wells. These are generally surface-wells in or near the village, and contamination may be taken for granted. Fortunately the water is practically always boiled before use for drinking.

The houses are generally built of sun-dried brick. The rooms are usually small, and the sleeping apartments are often extremely overcrowded. I know one family where the father and mother, married daughter and son-in-law, and five other children, the eldest a boy of 16, occupied the same small sleeping-room. Such a condition of affairs is not infrequent. The windows are of wooden lattice work, over which thin white paper is pasted. During the winter all the cracks round the windows are pasted over with red paper to keep out all cold air. An open coal stove is used for heating purposes, and consequently cases of asphyxiation from coal-gas are quite common. The rooms are floored with mud or porous bricks, on which the dregs of a cup of tea are poured. The Chinese have also a filthy habit of expectorating on the floor or any other convenient spot. The danger from a phthisical case may be imagined.

Rubbish is often thrown out on the road in front of the house. Many of the sewers are open, and the odours of China are noted for their variety and virulence.

Food is exposed in open shop-fronts to dust and flies. Sick oxen are often despatched and sold for food.

Dead bodies of adults are placed in coffins of thick planks carefully fitted together. They are generally kept in the house for a while before burial; the longer, in reason, the interval between death and burial the greater the respect shown to the departed. In the hot summer weather the stench is sometimes sickening. Each family has its own grave-yard. Dead children or infants are thrown into a river, or buried in any piece of unused ground available.

Infant mortality is enormous. In Hongkong, where statistics are available, it is stated that out of 1000 Chinese infants born in 1900 only 72 survived a period of 12 months. Even allowing for the great fertility of the people, and for the fact that by early marriage they raise three generations to our two, the figures seem almost incredible. One of my wife's sewing women had had 11

children and all had died; another had had seven and all were dead. A boatman on a houseboat we hired had had 14 children and only two survived.

Diseases of North China.

Of these I can speak only in a general way and from memory. Not having access to our hospital records, nor even to the files of the China Medical Journal, I have not been able to check my rough impressions gathered chiefly of late, from our out-patient clinic.

Most of our in-patients are surgical cases; it is very difficult to persuade medical cases to submit to the slower methods employed in Western medicine. So our experience in detailed observation of medical cases is limited. Another difficulty is that we are not allowed autopsies to clinch a diagnosis made on symptoms and signs.

I shall indicate briefly wherein the disease-incidence of North China differs from that of the Southern parts of Australia. First, to deal with the medical side.

Parasites.

One prominent feature of China is the almost universal presence of *acarus lumbricooides*. Routine examination of hospital patients show that 70 to 80 per cent. are infected. Usually the parasites produce no disturbance, but in any case of slight fever, loss of appetite, and abdominal discomfort, especially in children, it is necessary to look for the ova in the faeces. I well remember my first introduction to this ubiquitous worm. The daughter of the Dutch Minister presented the classical picture of acute appendicitis; I was on the point of telling her mother that she must be removed to Peking for operation when she vomited—a diagnosis. *Ankylostomiasis* is present in North China but not to the extent in which it prevails in the South.

Dysentery is extremely frequent, especially in the late summer season. The amoeba is frequently present, but more often the disease is of the bacillary type.

Malaria is present in the swampy districts of North China, but is only occasionally widespread.

Kala-azar is relatively prevalent in North China, associated with enlarged spleen, and less frequently with cancerum oris.

I have seen only one case of hydatid, which came down to us from Mongolia. It is quite likely that it is prevalent there, seeing that the wandering tribes share their tents with their dogs.

Coming to specific infectious fevers, enteric fever is surprisingly rare considering the unhygienic conditions under which the people live. The fact that water is almost always boiled before it is drunk is a great safeguard. When it occurs, it is usually of a mild type.

Typhus fever is of frequent occurrence. Last year one of our Peking staff and four other foreign doctors in China died of this disease.

Small-pox is endemic. It is regarded as a visitation from heaven, and is called "the heavenly flowers." Patients rarely come to us for treatment, though I have had to turn them out of the waiting room with the scabs on the face, protesting that they were better. Marked pitting of the face and extensively ulceration of the cornea are frequent results.

Scarlet fever is often very virulent, with severe pharyngeal symptoms, and has a high mortality.

Septicæmic infection is rare. In fact, the remarkable freedom of obstetric cases from septic infection suggests that a considerable degree of immunity to septic organisms has been acquired.

Rheumatic fever with arthritic symptoms is rare; consequently there is much less heart disease than we see here.

Cholera occurs in rare epidemics in the North.

The bubonic form of plague is rare in the north. We had the one well-known visitation of pneumonic plague in December, 1910. Not a single patient recovered.

Rabies is endemic, so that we feel it unsafe to keep dogs in our compounds.

Leprosy is absent from our province. I have seen two or three cases, all of whom came from Shantung on the east.

Tuberculosis is rampant. Surgical tuberculosis affecting glands, joints, and bones is much commoner than phthisis. The recent theory that surgical tuberculosis is bovine in origin apparently does not hold in China, seeing that the Chinese do not drink milk.

Alcoholism is almost unknown. The people rarely drink alcohol, except in moderation at the beginning of a feast.

The opium habit is one of the curses of China. The nation is worthy of all praise for the magnificent fight they have made during recent years to rid their country of this vice.

Muscular rheumatism and osteo-arthritis are frequent. Rickets is practically unknown, despite the varied dietary to which infants are subjected.

Chronic dyspepsia, due to the bulky nature of the food and the habit of bolting it as rapidly as possible, is more or less universal.

Gingivitis and pyorrhoea alveolaris are very common. Appendicitis is practically unknown. I can offer no explanation of this fact, unless it be the vegetable nature and massive proportions of the diet, and the small use of meat. Gastro-enteritis is very frequent.

Bright's disease is not infrequent, but is not as common as here, perhaps because habitual use of alcohol is rare.

Owing to the infrequent occurrence of acute rheumatic fever, heart disease is comparatively rare. Aneurism is not often seen, though syphilis is common. Arteriosclerosis is common.

Locomotor ataxy is not frequent; I saw one well-marked case of Charcot's joint. Herpes Zoster seems unusually common, and often has strange distributions.

Facial paralysis struck me as being remarkably prevalent, especially in young adults. It generally yields readily to treatment.

Of the functional diseases, epilepsy and neuralgia are frequent. I have seen chorea and tetany only once. Hysterical and neurasthenic conditions are comparatively rare.

To sum up the medical aspect, the most marked features are the general prevalence of parasites, dysentery, typhus fever, chronic dyspepsia and surgical tuberculosis, and the rarity of enteric fever, rheumatic fever, septicaemia, and appendicitis.

Surgical Diseases.

The commonest condition for which our aid is sought is fistula-in-ano. This varies from a single superficial fistula to a warren of tracks involving both buttocks. A doctor who read a paper at our Medical Society described the latter class as "chartographical"; and after all the sinuses have been traced and opened, the patient's posterior aspect resembles a map marked with parallels of latitude and longitude, mountains and rivers. Various explanations were offered as to reason of the great frequency of the condition. Some attributed it to the coarse food, and the gritty nature of the dejecta; others to the squatting position assumed at defaecation, causing congestion in the blood supply of the part. One man ascribed it to "the usual economy in sanitary paper and the substitution of a piece of brick."

Haemorrhoids, both internal and external, are very common.

Venereal disease is common in the cities and rare in the country. A feature of the syphilitic manifestations is the marked frequency of condylomata about the anus. I have not seen many evident cases of inherited syphilis; probably the majority of children affected in this way die in infancy. Epididymitis is a common sequela of gonorrhœa. I should judge that stricture is not so common as here.

Tumours of all kinds are probably as common as here. Sarcomata generally spring from bone. Epithelioma of the penis and scirrhous of the breast are the commonest malignant growths.

Tubercular disease of the spine, hip-joint, elbow-joint, and ankle-joint are distressingly common. Tubercular glands of the neck are very frequent. We rarely see them till they have broken down and ulcerated through the skin.

Ulcers from dirt, syphilis and varicose veins are a constant feature of the out-patient dressing-room.

Enlarged tonsils and adenoids are rare, while otorrhœa is very common.

Enlarged prostate is comparatively rare.

All surgical conditions are aggravated by neglect and maltreatment. We often find text-book descriptions entirely inadequate, and the surgeon has to proceed by the light of his own common sense.

The Chinese bear operations remarkably well; dangerous post-operative shock is rare. As a rule, they bear pain well.

Skin diseases abound. Eczema of all descriptions and scabies are seen every day. Lupus, psoriasis, seborrhœa, impetigo and tinea versicolor are the commonest of the other skin cases.

Eye diseases are very prevalent. Trachoma is very common with all its sequelæ of corneal ulcers, pannus, trichiasis and entropion. Phlyctenules are very frequent.

We see a fairly large number of cataracts, and still more of glaucoma—usually of the slow chronic type.

Refractive errors are very prevalent—especially high myopia and considerable degrees of astigmatism. I have seen seven or eight dioptres of astigmatism.

I doubt whether, from what I have detailed of the diseases of China and the methods employed to cure them, it is possible to realise the suffering of a vast population, such as exists in China, or form an adequate conception of the pitiful need of medical aid. The imagination staggers when it tries to think in millions. China has 400 million inhabitants—a quarter of the people on the globe, and exceeding the total population of all the white races. In the district on the great plain of North China where I first worked, in an area of 50 miles by 100, there were crowded 4 million people—almost equal to the population of Australia. I was the only medical man there.

A doctor would be justified from philanthropic motives alone in devoting his life to the physical relief of so vast a people in such dire need of help. It is only natural that most of the missionary societies at work in China regard medical work as an integral part of their obligation to the Chinese. In all China there were in 1911 328 medical missionaries—240 men and 88 women, and from 400-500 Chinese assistants; that is, a doctor and a Chinese assistant to a million people.

Apart from the paucity of foreign doctors, the most serious difficulty is the lack of properly trained assistants. At operations in my hospital in the country I had a young Chinese, whom I had trained myself, as anæsthetist; I had to keep an eye on him to see that he did not administer an overdose of chloroform. To assist me I had two boys just out of school, and it was necessary to watch them constantly to see that they did not touch anything which had not been sterilized. Then we had friends of the patient present at the operation to "see fair play." I had often to sternly intervene when they offered to "assist." Operating in such circumstances does not lack in incident.

We foreign doctors are coming to realize that we shall best meet the need of China by concentrating our energies chiefly upon medical education—training the Chinese to be doctors to their own people.

Medical Education.

From the early days of medical mission work the doctors have been carrying on medical education in a small way. But it was impossible for one or two men with a busy medical work on their hands to give their helpers anything like a complete course in western medicines.

Various medical books were translated into Chinese, but there was no recognised terminology, and each man followed his own ideas in that matter. Naturally, there was great perplexity and confusion.

After the movement in favour of Western learning began in the 'nineties, two Government schools of medicine were opened in Tientsin, one by the Army and one by the provincial authorities. They have not reached a very high standard, and the facilities for clinical teaching are limited.

The Boxer outbreak of 1900 swept all mission work in Pekin away—all the buildings, including hospitals, were destroyed. In making a new start the various missions decided to combine forces in order to make it possible to compass a complete five years' course in western medi-

cine. In this way the North China Union Medical College came into being, to which six Societies—three British and three American—send teachers; we are thus able to gather a staff of 15 foreign physicians.

The College stands on one of the main streets of Peking, and is a conspicuous institution. While the building was going up, the old Empress Dowager donated £1350 to the College, and on the strength of that gift we were able to make an appeal to the highest officials in China, and secured sufficient funds to finish the building and furnish it.

Following on the Imperial sanction, official recognition was granted by the Board of Education. This is the only College under foreign control in China which has this privilege. The Board of Education sends examiners to our final examinations, and grants a diploma to each of our graduates.

By virtue of the Imperial sanction we confer a degree upon our students. Following the American procedure, which is usual in China, we give the degree of M.D.

The course of study in the College occupies five years, and is practically identical with the curriculum of home universities. All the teaching is in Chinese, so we teachers have to prepare first what to say and then how to say it. Consequently newly-arrived teachers can do little teaching for the first two years, while they are learning the language.

Another tremendous disadvantage has been that autopsies have not been allowed. We have had to teach anatomy with full-sized manikins, models, and charts, supplemented at times by the dissection of animals and of an occasional part imported by stealth from England. My last China letters bring the welcome news that the new Government has sanctioned human dissection, and that the first two subjects had been received at the College from the prison.

Still another formidable obstacle existed when our College first opened. There were practically no text-books in Chinese available. Each teacher had to prepare his own notes, and these were cyclostyled for the use of the students. Since then the Publication Committee of the Medical Missionary Association of China has been steadily issuing new publications, beginning with a Medical Lexicon of Terminology, so that now there are some 20 translations of standard works, such as Osler's Medicine and Rose and Carless' Surgery. My own small contribution has been a student's handbook of Medical Jurisprudence and Toxicology. A medical journal in Chinese has recently been started. We are pushing for a higher standard of English from our students, with the intention that they may be able to continue their medical studies by reference to English books and papers.

We have about 100 students in the College. Allowing for the defects of early education, they bear comparison with western students. They have the national characteristic of great ability in memorising, and think nothing of committing to memory their lectures on anatomy and *materia medica*. Probably, in consequence of this, they are at first weak in the power of reasoning, and in grasping anything which comes to them in a different form from that in which they have learned it in their text-books and notes. The teachers exert their ingenuity in the monthly examinations and in practical work, to take the students off this beaten track, and we find that most of them respond in a marked increase of the reasoning faculty. Most of our students are surprisingly weak in any arithmetical calculations which arise in their work, e.g., in pharmacy.

We have graduated three classes of 16, 15, and 7 respectively—38 in all. Our students come from all parts of China, so that these men are likely to exert a widespread influence throughout the country.

Our College has been enabled to render service to the Government on two notable occasions, in a way which has brought us prominently under the notice of the highest officials in China. In December, 1910, that terrible epidemic of pneumonic plague came sweeping down on the cities of Manchuria from the north. The Government appealed to us for help and four of our foreign staff, and three of our students went into the thick of the fight.

Our College was made the distributing centre for plague vaccine and disinfectants. Later plague appeared in Tientsin, and two of our graduates and thirteen senior students volunteered for service there. Two of these men became infected and died. In Peking the first case of plague was brought to our hospital, and we were able to move the authorities to institute effective measures to cope with the outbreak. The city was divided into sections, and one of our graduates was placed as chief sanitary inspector over each section. These men had to investigate every case of death in the city, and without their certificate no coffin could be bought. All "contacts" and "suspects" were isolated outside the city. By these methods the plague in Peking was stamped out in three weeks.

When the revolution broke out, College work was interrupted, and our students were formed into three Red Cross parties, and rendered very useful assistance, chiefly to the northern army.

These two pieces of work brought us the heartiest recognition of the President and the heads of the Government Boards concerned. Medicine is still rather despised in China. We believe that the work of our graduates will materially help to raise the status.

The example of our College has been followed in the formation of Union Medical Colleges in other parts of China. The newly-established University of Hongkong has a well-equipped medical school.

We regard it as extremely important that the teaching of medicine in China should be associated with the best moral influence and moral training. We know how great an influence for good in a community our profession may be, provided that it is dominated by the high ethical code that distinguishes the practice of medicine in our own lands. We know, too, how, when divorced from such principles, medicine may be prostituted to the vilest uses. One hesitates to put into the hands of any people an instrument so potent for good or ill, without at the same time imparting those moral principles which have been its safeguard in western lands. The experience of secular education in Japan confirms this conviction. I am glad to say that almost all our graduates are Christian men.

These Colleges have the field to themselves while the Government is still unable to take up effectively medical education. For instance, we have a great opening for a well-equipped public health department to disseminate information on principles of hygiene. We have to add to our equipment slowly as money comes in, and in that direction where the need is most acute. We are hoping the day may soon come when men of means will recognise the true significance of the work we are doing in the capital of China as our contribution to the upbuilding of this vast nation, and will make it possible for us to do it in a way more worthy of its special significance and vital importance.

We Australians are apt to look down on the Chinese as an inferior race. But we should remember that the Chinese, whom we see in Australia, are almost all from the coolie class of Canton; the Chinese gentleman, scholar and merchant do not leave his own land. Personally, despite the present political chaos and social upheaval in China, I believe that the Chinese are destined to be one of the greatest nations in the world. As a people they have great vitality, and can exist on the most meagre food. They have a high grade of mentality, and with improved methods of education are capable of great achievements. They are patient and persevering to a degree. Almost all have a large share of manual dexterity. The natural resources of the country, at present practically untouched, are enormous. The area of the coalfields of China are greater than those of all the rest of the world put together. Side by side with these are vast stores of iron. Experts claim that when these resources are developed the country can support twice its present population.

This great nation, which for tens of centuries has been gazing backward to its Golden Age, is now thoroughly aroused to its need of progress, and is anxious to learn all that the West can teach. I count it a privilege to bear even a small part in the shaping of such a nation's character and destinies.

AN ADDRESS ON PYELOGRAPHY.

By S. Harry Harris, M.D., Ch.M.

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 (Read before the New South Wales Branch of the British
 Medical Association.)

Pyelography was introduced by Voeleker and Lichtenberg in 1906, and to them is due the credit of showing that dilatation of the renal pelvis can be demonstrated at a time when no enlargement of the kidney itself has taken place. Their method was to introduce through a ureteral catheter a solution of silver colloid, which is impervious to X-rays and innocuous to the tissues, and then to obtain a radiogram. In America and on the Continent their methods found a wide acceptance, and, as is so often the case with new procedures, were often employed without due precaution, with the result that not a few accidents were soon recorded. Certain modifications and greater care in the application of the technique have since been adopted, with the result that in careful hands, at the present time, the risk of injury to the kidney and ureter has been practically—one might say, absolutely—eliminated.

There are two efficient methods of injecting the renal pelvis and ureter, the first by gravity, the second by syringe. In each it is all-important to avoid over-distension of the pelvis and ureter, as this would not only produce a violent attack of renal colic, but subject the patient to the risk of rupture of the parts involved, and, in case collargol were the injected medium, might lead to diffusion of the solution into the renal tissue and possibly to infarction—all of which accidents have been reported.

The method which I have now employed in a considerable number of cases of estimation of pelvic capacity and pyelography has proved both satisfactory and free of mishap. The technique is as follows:—A small bore catheter (No. 5 or 6 F.) is passed up to the renal pelvis, which is emptied as completely as possible of residual urine, and the amount measured. Except in certain irritable conditions of the kidney in which the urine may be secreted as quickly as it is drained away, the emptying of the pelvis is signified by a cessation of the more or less continuous flow of drops from the end of the catheter, the dropping becoming slower and more intermittent. A coloured lotion is then slowly injected up through the catheter, the ureteral orifice in the bladder being at the same time watched for reflux. When the pelvis and ureter are full, the coloured fluid will be seen to flow back in a continuous stream by the side of the catheter, and this will often occur before the patient has experienced any sensation of pain or tension.

If the ureter is strictured or otherwise contracted, so as to grip the catheter, which is exceptional, there may be no reflux, and the first sensation of tension or pain is the indication for discontinuing the injection, which, in such case, should be less than the measured amount of residual urine. By these means, the pelvis capacity is accurately gauged. The cystoscope is then removed, leaving the catheter or

catheters in situ, and the fluid is allowed to drain away. The patient is now transferred to the X-ray couch. When all is in readiness, a 5 to 15 per cent. silver iodide emulsion in quince seed is slowly injected, the quantity used being less than that corresponding to the ascertained capacity of the pelvis and ureter. By this means, not only is no pain produced, which is of great importance in securing accurate definition of the pelvis and ureter, but also all risk is eliminated of rupture of the pelvis and ureter, or infiltration and infarction of the kidney tissue. The silver iodide emulsion which was introduced for this purpose by Howard Kelly and Lewis ("Surgery, Gynaecology and Obstetrics," June 1913, 707) is not only cheap and easily prepared, but, I believe, does not tend to permeate nor produce cauterization of the kidney substance or its living membrane. These accidents have been reported by several observers after the use of collargol. Moreover, the silver iodide emulsion throws at least as good a shadow as a collargol solution of twice the strength.

So far as can be determined, all the recorded accidents have been due to the use of excessive force in making the injection, or to the continuation of the injection after full distension; the pelvic capacity has not been estimated as a preliminary step nor has the continuous ureteric reflux been looked for.

*Extensive experiments in dogs by Wassillo on pyelography (extract in the Centralblatt für Chirurgie, March 14, 1914, for which I am indebted to Dr. Gehrels), prove conclusively the necessity of injecting less than the pelvis can contain without distension, and therefore of estimating the pelvic capacity, prior to pyelography. If collargol be injected by the gravity method to the point of pain or tension, as is so often recommended, some penetration into the kidney tissue must follow in certain cases, especially in dilated and insensitive or otherwise diseased kidneys. This danger, for physical reasons, is greatly minimised by using the silver iodide emulsion, and, I believe, disappears when this is injected to an extent less than the measured capacity of the renal pelvis.

The first radiogram is taken of the upper urinary tracts with the patient in the supine position. (If no previous X-ray examination has been made, the first radiograms are, of course, taken before the emulsion is injected.) Some of the emulsion is then allowed to syphon off and the catheter is partly withdrawn. A few more drops of the emulsion are then injected and another picture taken. This has been found advisable where accurate definition of the lower ureter is desired. These pictures are immediately developed. If they are satisfactory, and there is still room for doubt, another radiogram is then taken of the upper urinary tracts, with the patient in the erect position, after having performed certain muscular evolutions, which would presumably displace a mobile kidney. This is important as allowing of the development of kinking of the ureter, which would possibly not develop in the recumbent posture, and with the ureter splinted by the catheter, such, for example, as occurs in cases of intermittent hydronephrosis, due to mobile kidney and aberrant renal vessels.

The catheters are then withdrawn and the discharge of the emulsion left to nature.

For the sake of comparisons or otherwise, it is often advisable to obtain synchronous pyelograms of each side.

In women no anaesthetic of any kind is usually required, nor is any advisable, the patient's sensations being a valuable check. In men, too, who will

tolerate the passage of a urethral sound, an anaesthetic is undesirable. Sometimes, however, a local instillation of 5 per cent. cocaine and adrenalin, and perhaps a hypodermic injection of hyoscine may be necessary. Occasionally, in either sex, a general anaesthetic may be required, owing to the presence of an intolerant bladder or urethra, and in these cases great caution must be exercised in estimating the pelvic capacity, and the pyelogram should be deferred, if possible, until the patient has regained consciousness.

A good radiogram of a carefully injected pelvis will, in most cases, show as accurate a picture of the relationship of the pelvis and calices to the renal parenchyma, as though the kidney lay sliced longitudinally in the examiner's hand. The type of pelvis, be it funnel shaped, dichotomous or branched, is clearly seen—(vide Fig. I.)

The earliest signs of dilatation are evidenced by broadening and clubbing of the calices (vide Figs. III. and IX.) often with some dilatation of the true pelvis, especially in obstructions of the ureter. With obstruction in the pelvis, or its calices, as from a renal calculus, the involved calyx or calices alone may be dilated (vide Fig. VIII.) and the pelvis itself, perhaps smaller than normal from inflammatory contraction. In such cases the calices become elongated, as well as broadened, until they reach to the capsule of the kidney. On the other hand, when the dilatation occurs chiefly at the expense of the pelvis, the calices are broadened and shortened, and are gradually drawn into, until they merge with the pelvis, the papillæ perhaps remaining as indentations upon the surface. This latter forms what has been termed the pelvic type of hydronephrosis, as opposed to the renal type, when the dilatation affects chiefly the calices.

In the normal kidney, the ureter typically forms with the pelvis a wide angle (vide Fig. I.). As dilatation proceeds, this angle commonly becomes more and more acute, until the uretero-pelvic junction forms a distinct projection into the sac, thus causing further obstruction to the outflow of urine (vide Figs. II. and III.). Distinct evidence of beginning dilatation may be found when the cubic capacity of the pelvis does not exceed 18 c.c. (vide Fig. IX.). Dilatation may proceed as far as 4 ounces (as in Case V., Fig. II.), or even further, and still the kidney may not be palpably enlarged. The importance of the recognition of hydronephrosis before it has reached this stage will be admitted. As Thomson Walker has recently written ("Annals of Surgery," Dec. 1913, p. 770), "There must be a time in the early stage of hydronephrosis when permanent relief of the obstruction will be followed by complete restoration of the kidney to its former condition. But this time is at the very commencement of the dilatation. It is long past when the kidney can be felt enlarged on palpation of the abdomen."

Several authorities illustrate what they term cases of intermittent hydronephrosis without demonstrable pelvis dilatation, due chiefly to aberrant renal vessels or in mobile kidneys. Whether the symp-

toms are due to acute temporary pelvic distension or to torsion of the vessels and partial strangulation of the portion of kidney involved, may leave room for doubt. But the pyelographic evidence of the ureteral kink, and the relief following operation, afford definite indication of the exciting cause. (Vide Figs. VI. and X.)

Pyelography, then, affords ocular demonstration of the shape, size and type of the renal pelvis, its calices and ureter. It allows of the recognition of an early hydronephrosis at a time when no enlargement has taken place in the kidney, and indicates the site, and often the nature of the obstruction—whether stone, stricture or kink of the ureter. Its most promising field is in the elucidation of that large class of ease, which presents the symptom-complex of renal pains, with or without pyuria, in which the ordinary X-ray examination is negative and ureteral catheterisation alone inconclusive. Dr. Sear informs me that in the practice of Dr. Herschel Harris and himself in the last 233 cases sent up for radiography of the urinary tract, 170, or 73 per cent. were negative. Allowing for several cases in which other causes for the pains were found (such as spondylitis deformans, etc.), this leaves about 70 per cent. of such cases without evident diagnosis.

Pyelography is also of value in showing the position of calculi relative to the pelvis and calices, thus affording indications for nephro or pyelo-lithotomy. It shows, too, the relation of doubtful shadows, such as of gall-stones and phleboliths, to the kidney and ureter. Further, by showing the extent of dilatation, in cases of ureteral calculus, it may be of value in deciding for or against immediate operative intervention.

It affords valuable evidence in cases of horse-shoe or dystopic kidneys, and in cases of suspected renal tumours, these last being evidenced, in many cases, by lengthening or distortion of the calices, and perhaps of the renal pelvis.

In cases of renal tuberculosis, in which the usual tests are indefinite, the diagnosis can, at times, be made or confirmed with a considerable degree of certainty by pyelography, and, if necessary, the condition determined of an enlarged but presumably sound kidney, in cases of presumed unilateral disease. But, as it is probably necessary for the tuberculous process to involve the renal pelvis or ureter before definite pyelographic evidence is obtainable; the earliest conditions may not be recognised by this method. Thus a normal pyelogram would not necessarily exclude very early tuberculosis. Tuberculosis may be evidenced by irregular distension of the ureter and relative contraction or dilatation and irregularity of the pelvis.

Recently Clarke and Keene, of Philadelphia ("Surgery, Gynaecology and Obstetrics," Jan. 1914), have emphasised the relationship which often exists between the urinary system and diseases of the female pelvic organs. They illustrate from a large gynaecological clinic the comparative frequency with which hydronephrosis and pyonephrosis occur, consequent on ureteral compression by inflammatory ex-

udates, especially in the region of the broad ligaments (the symptoms often being erroneously ascribed to vesical irritability or cystitis.) In cancer of the cervix uteri the condition has, of course, long been recognised. As their paper is an important and authoritative one, I quote at length the concluding paragraph:—

1.6 mm.

"Realising that lesions of the urinary system may occur either as complications or sequelæ of diseases of the female pelvic organs, we cannot urge too strongly the importance of determining their exact nature before resorting to an operation, which may be inadequate or even unnecessary. Experience in a large number of these cases has taught us that the solution of this problem cannot be gained from dependence upon symptoms; they can only serve as an indication which points to the necessity of further investigations. Whether we are dealing with primary disease of the kidney, or abnormalities of the pelvic organs which encroach upon the bladder, the subjective manifestations common to both are often limited to vesical symptoms. The relationship of the one to the other can be definitely determined only by a thorough examination of the bladder, ureter and kidneys. A routine cystoscopic examination in all cases presenting vesical disturbances, irrespective of the coincident pelvic pathology, should be the rule, for only by following this precaution can grave errors in diagnosis be avoided."

Case III. is an apt illustration of the above. Pyelography will possibly also find a certain field of usefulness in obstetrics, especially in cases of pyelitis and hydronephrosis of pregnancy. It may, by affording evidence of the extent of renal involvement, indicate, quite apart from the general condition of the patient (especially if considered in conjunction with the functional renal tests), the propriety of terminating the pregnancy or the advisability of non-interference. Generally speaking, the greater the extent of renal dilatation, the more serious is the patient's condition.

Cases IV. and VI. illustrate the value of pyelography in these conditions well.

CASE REPORTS.

For the radiograms herewith presented I am indebted to Dr. H. R. Sear, with the exception of Fig. VIII., which is from the Mayo Clinic. Each case (except Fig. VIII.) was injected with 5 or 10 per cent. silver iodide emulsion prior to radiography. methods by examination are negative.

Case I.—Persistent pain after spontaneous passage of ureteral calculus. Pyelography shows a normal kidney and ureter.

Mrs. W. aet. 26, had suffered with attacks of right renal colic for five months, dating from her second confinement. The acute attacks ceased after the spontaneous passage of a small ureteral calculus, but for the past six weeks there had been more or less persistent pain in the lower abdomen, most marked on the right, occasionally shooting down the groin. There was also diurnal frequency of micturition. Urinalysis was negative for crystals, blood, pus and albumen. X-ray examination was negative. Pyelography (Fig. I.) showed the absence of any dilatation of uvelis or stricture of ureter. Symptoms disappeared after appendicectomy and ventro-suspension.

There was no evidence of ureteral obstruction either in the pyelogram or on catheterisation. This would suggest that the present condition was the result of ureteral obstruction and pyelitis during pregnancy, the obstruction having disappeared after delivery, but leaving a hopelessly crippled kidney, for which nephrectomy would seem the necessary treatment. Renal sevage on several occasions gave temporary benefit, by relief of tension, but as soon as it was discontinued the mild colicky attacks returned.

The case is of interest as showing that the general condition of the patient is not always an index of the gravity of the real lesion, and affords an excellent example of the value of pyelography in that class of case presenting the symptoms of renal colic, and in which ordinary radiography, and the usual methods of examination are negative.

Case II.—Right-sided abdominal pain unrelieved by cholecystotomy and nephropexy performed four years ago. Pyelography shows a normal kidney anchored in good position.

Mrs. B. aet. 52, has suffered since her menopause at 45 from recurrent attacks of generalised abdominal pain and vomiting, for which exploration of the gall-bladder and fixation of a right mobile kidney were performed in this city four years ago, with a negative result, as far as the gallstones were concerned. According to the patient's statement, no drainage was carried out. The patient has since become very stout, and the pain after a temporary remission has now become as bad as before the operation. Urinalysis was negative except for a trace of albumin. The kidney was not palpable on account of obesity. The patient has a mobile retroverted uterus and right iliac, tenderness on deep pressure. It is desired to know whether the kidney has retained its position. The pyelogram (Fig. VII.) shows a normal kidney, fixed in good position, both in recumbent and erect posture.

Case III.—Repeated attacks of right iliac and lumbar pain and vomiting, associated with unilateral coli bacilluria. Pyelography shows early hydronephrosis, a condition caused by ureteral obstruction, secondary to chronic salpingitis.

Mrs. M. aet. 36, operated two years ago for perforated duodenal ulcer. Pelvic abscess opened per vaginal ten days later. Recovery with adherent retroverted uterus and enlarged apendages. Remained fairly free from symptoms for 18 months. During the past six months weekly or bi-weekly attacks of right iliac and lumbar pain and tenderness, with vomiting associated with frequent and painful micturition.

Vaginal examination showed a bulky, fixed, retroverted uterus, with enlargement of the appendages. Cystoscopy showed a distorted bladder, with bullous oedema of the trigone. Ureteral catheterization discovered an obstruction of the right ureter one and a half inches from the bladder. Pyelography (Fig. IX.) showed early dilatation of the calices, with a practically normal pelvis; cubic capacity, 18 c.cm. Urinalysis by Dr. Tebbutt.

Right side, opalescent specimen, which did not altogether disappear on centrifuging. Very little deposit, consisting of transitional epithelium. No pus cells found; a bacillus of the colon group was present in considerable numbers, yet not as numerous as in many cases of pyelitis. Left side: Clear specimen, slight deposit of transitional epithelium, a few granular and epithelial casts; also tailed pyriform cells, probably of pelvic origin. No pus cells found. Cultures sterile.

Phenol-sulphone-phthalein test; 45 per cent. left kidney in two hours; 10 per cent. from right kidney.

A consideration of the above would suggest that the pathological sequence was as follows:—Recurrent attacks of pelvic inflammation, caused intermittent right ureteral obstruction in the base of the broad ligament. This in turn caused reno-ureteral colic, followed by early renal dilation, with a super-added b. coli infection and considerable renal functional derangement.

Case IV.—Sudden abdominal pain at the 24th week of pregnancy, associated with vomiting and elevation of pulse and temperature. Pyelography demonstrates bilateral hydronephrosis.

Mrs. N. W., aet. 29, primipara, 24 weeks' pregnant, a patient of Dr. S. L. Cook, had suffered with intermittent lower right abdominal pain for one month, the first attack having been ushered in by sudden acute pain and vomiting, with a temperature of 120° and a pulse of 104. Paroxysmal pain and feverishness, with occasional attacks of vomiting, persisted for three days, when the fever subsided, and the pulse rate became less frequent, and the acute symptoms disappeared. There was marked tenderness in the right loin and iliac regions at the beginning of the attack. At no time was there any disturbance of the micturition. After subsidence of the acute symptoms, the lumbar tenderness disappeared, and the patient was fairly comfortable, except for recurrent current attacks of colic, located in the right lower region of the abdomen, where there was also persistent tenderness on pressure, and a more or less constant dull ache. The urine was microscopically clear. Ureteral catheterization disclosed an obstruction 1 cm. from the ureteral orifice, on the right side, which was eventually over-

come. There was a considerable quantity of residual urine, the pelvic capacity exceeded two ounces. Distension reproduced the pain. The left catheter passed without difficulty, pelvic capacity, 5 drachms. The catheter was left in the right kidney for three hours; thereafter immediate relief of pain and tenderness. Urinalysis by Dr. Tibbutt:—

B. coli numerous in both samples submitted; a fair number of pus cells present on right side, none on the left; no casts.

There was complete relief for ten days, when the patient returned for further catheterization on account of slight return of pain. The urine was still microscopically clear. The pelvic capacity was found to be reduced by 2 drachms. A pyelogram was taken (Fig. V.) and showed greatly dilated pelvis and ureter on the right side, and an early dilatation of the pelvis with hydroureter on the left side. According to Dr. Cook's latest report, more than two months after the last catheterization, the patient had remained free from pain and quite well. We have unfortunately not been able to trace her later history.

Case V.—Acute right lumbo-abdominal pain, with painful and frequent micturition and haematuria. Kidney not palpable. Pyelography demonstrates pyonephrosis of four ounces capacity.

Mrs. M. aet. 20, patient of Dr. R. I. Furber, under whom she was admitted to the South Sydney Women's Hospital on November 10, 1913. On admission the acute symptoms had subsided and the chief complaint was of intermittent attacks of pain and tenderness of moderate grade in the right ilio-lumbar region. The urine contained much pus and albumin, but the haematuria, pain and frequency of micturition had disappeared. The patient had a baby three months' old, and had had symptoms pointing to a mild pyelitis during pregnancy. On admission the right kidney was not palpable; the pulse rate was 92, and the temperature 101.5°. Ureteral catheter (No. 6) passed without obstruction to each kidney. The urine from the right was of "rice-water" appearance, the left quite clear and amber-coloured. The indigo-carmine test was negative for the right kidney, and twelve minutes for the left.—Pathological Report by Dr. Tebbutt.

Right side contains very numerous pus cells and b. coli; left side quite clear and sterile.

The pelvic capacity on the right side was four ounces; on the left side three drachms. Ordinary X-ray examination was negative. Pyelogram (Fig. II.) showed a large pyonephrosis on the right side with practically total destruction of kidney tissue. The papillæ and calices had disappeared. The loculations of the pyonephrotic sac are indicated by the clear lines (trabeculae) in the radiogram.

Case VI.—Acute right-sided abdominal pain of doubtful origin in the 28th week of pregnancy. Pyelography showed ureteral obstruction three inches above the pelvic brim and dilatation of the calices, pelvis and ureter.

Mrs. P. aet. 24, primipara, 28 weeks' pregnant; admitted to the South Sydney Women's Hospital on the 10th December, 1913, under the care of Dr. W. C. McClelland, with acute abdominal pain and collapse. Previous history negative. Present illness: Had suffered with constant sacral pain for seven days; two days before admission she was seized with a severe attack of vomiting of greenish-black material, followed shortly afterwards by acute right-sided lumbo-abdominal pain. On admission the pulse was 140, the temperature 102.5°, and the respiration 44. The tongue was dry and covered with thick yellow fur. Alae nasi were working. Marked epigastric distension; pain in the right lumbar region, shooting round to the front; extreme tenderness over this area. Pressure over right ureter per vaginam caused the patient to cry out with pain. The bowels had acted 36 hours before admission. Micturition normal. Urine, trace of albumin, no pus microscopically. There was no evidence of pneumonia; no rose-spots and the blood examination for typhoid and Widal's reaction were negative. Ureteral catheterization four days after admission: No. 6 catheter was passed without obstruction to the left kidney; on the right side it was blocked at 6 inches from the ureteral orifice. A No. 5 slipped past the obstruction with a little manipulation, and passed six inches further on to the right kidney. Turbid, light coloured urine flowed from the right side, clear light-coloured urine from the left. The pelvic capacity on the right side was 3½ ounces; on the left side 6 drachms. Indigo-carmine test: right side, one hour, nil; left side, 20 minutes, dark blue. Protargol, 6 drachms of a 2 per cent. solution injected on the right side; 1 drachm on the left. Right catheter left in for six hours, left catheter left in for two hours. Almost immediate relief of pain. The pulse dropped to 112 within 12 hours, the temperature to 97°, and the respiration to 24. On the following day the

pulse rate was 94. Pathological report on urine by Dr. Tebbutt:—

Right side: Turbid urine due to presence of very large numbers of pus cells. No red blood cells, no casts, traces of albumin, bacilli of colon type. Left side: Urine clear except for some granular material; pus cells very much less numerous; a few granular casts; no red cells; bacilli of colon type. Colon bacilli present in about equal numbers on each side.

The pyelogram (Fig. III.) taken during the second therapeutic catheterization on the 7th day after admission showed a well-marked ureteral obstruction, three inches above the level of the sacro-sacral synchondrosis. Above this level the ureter was uniformly dilated to about the diameter of an ordinary index finger. The papillæ showed no marked evidence of flattening, indicating absence of any marked atrophy of the kidney substance itself, the renal distention being practically limited to the pelvis and calices. The left pelvis showed an early grade of dilatation.

The pyelographic evidence, the urinalysis and the absence of indigo-carmine excretion by the affected kidney point to the engraving of an acute infection of the kidney and its pelvis on what was primarily a simple hydronephrosis. It was considered likely that relief of the obstruction by catheterization would relieve the patient of her acute intoxication, and possibly also permit the renal pelvis and calices to resume approximately their normal shape and capacity. The former supposition was amply borne out, as the patient after catheterization every third day for twelve days (the catheter on each occasion being retained for eight to ten hours) was almost in her normal condition, there having been an almost complete cessation of pain after the first catheterization. The urine became microscopically clear after the second catheterization, though the pathological report still showed a few pus cells and b. coli. She thereafter ran an uninterrupted course and re-entered the hospital at term, being delivered of a healthy living child.

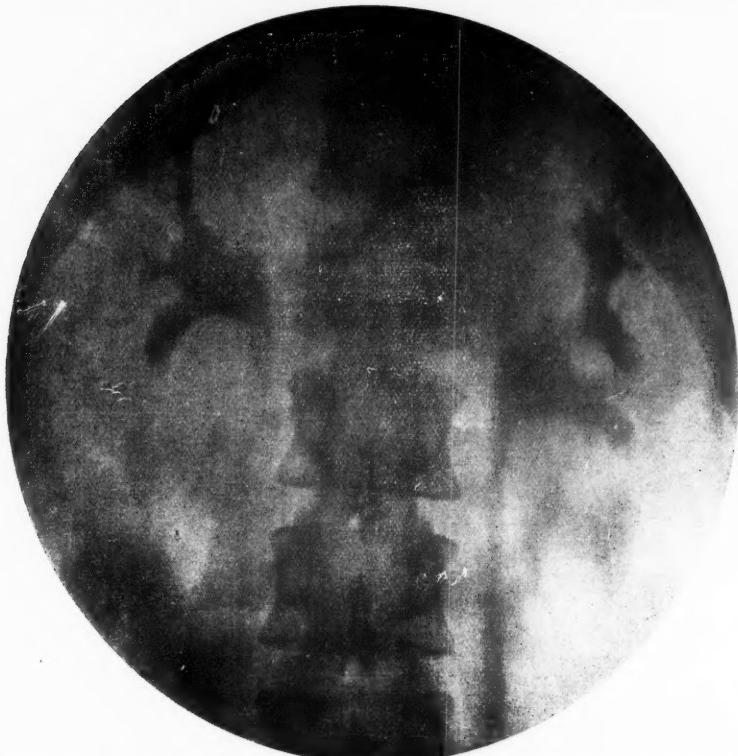
I have not yet, although it is eight weeks since the delivery been able to obtain another pyelogram of this patient, but hope shortly to do so. The urine is macroscopically clear, and she is free of pain and renal tenderness, though it is impossible at present to say how far her right kidney has recovered.

Case VII.—Enlarged, painful and tender kidney, with total occlusion of ureter on one side, occasional attacks of mild renal colic on opposite side, where pyelography demonstrates ureteral stricture with irregular distension of the pelvis and ureter, probably of tuberculous origin.

Mrs. L. aet. 33, admitted to the South Sydney Women's Hospital on the 2nd February, 1914, under the care of Dr. R. C. Hall Foster, suffering from left-sided abdominal pain of three years' standing. The family history was notable for pulmonary and cervical tuberculosis. The previous history presented nothing of note, and the patient had had three children without trouble of any kind. The present illness began three years ago, with attacks of left renal colic, which had persisted with varying degrees of intensity and frequency to the time of admission. There were also occasional but less severe attacks of pain on the right side, shooting down to the groin. Painful and frequent micturition had been present off and on during this time, but had lately ceased to trouble her. Examination showed a well-nourished but anaemic woman. Both kidneys were palpable, the left enlarged to the size of a small cocoanut and very tender; the right not palpably enlarged nor markedly tender. Cystoscopic examination showed a normal bladder mucosa, but with marked engorgement of each ureteral orifice, especially the left, from which there was no efflux. It was impervious to the finest filiform bougies. On the right side there was some obstruction to a No. 6 catheter, 1½ inches from the bladder, but a No. 5 squeezed through, though tightly hugged by the ureter. The pelvo-ureteral capacity was five drachms. The indigo-carmine test was positive in twelve minutes on the right side, and negative on the left side. Urinalysis was negative for pus and micro-organisms, but showed a trace of albumin and a few epithelial cells. The pyelogram (Fig. IV.) showed a stricture of the ureter a short distance above the bladder. The ureter was irregularly distended throughout, suggesting tuberculosis. The pelvis showed a moderate dilatation, with blurred, irregular outline, indicating inflammatory encroachment. Pyelography and urinalysis were extremely suggestive of quiescent tubercle. Nephrectomy was performed on the painful left kidney. There was some supereran in the wound, which was, however, firmly united in six weeks, when the patient left the hospital, much improved in general condition, and free of pain. The exact pathology of the removed kidney is still sub judice. There was no renal tissue left, the entire mass being composed of fibrous tissue and

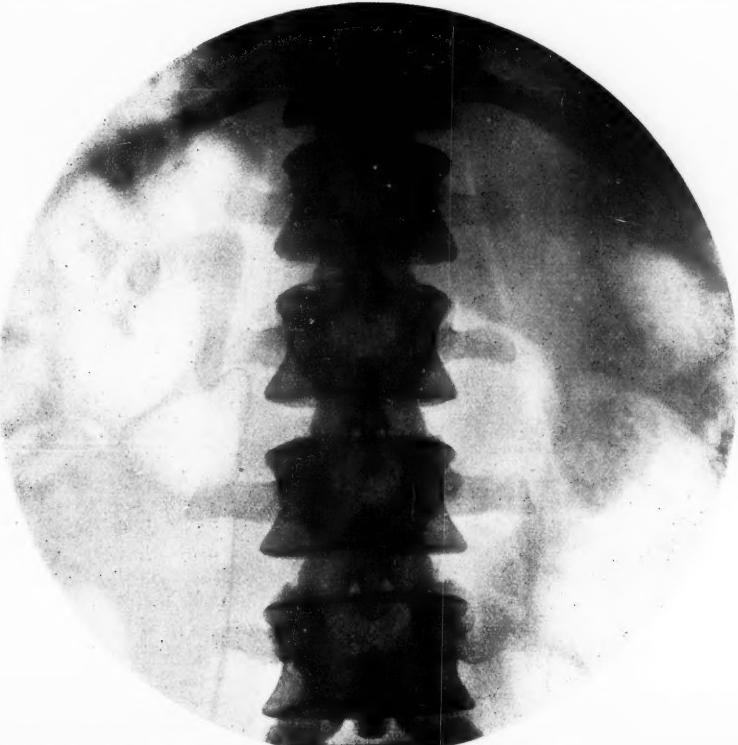
PLATES ILLUSTRATING DR. S. HARRY HARRIS' PAPER.

Fig. 1



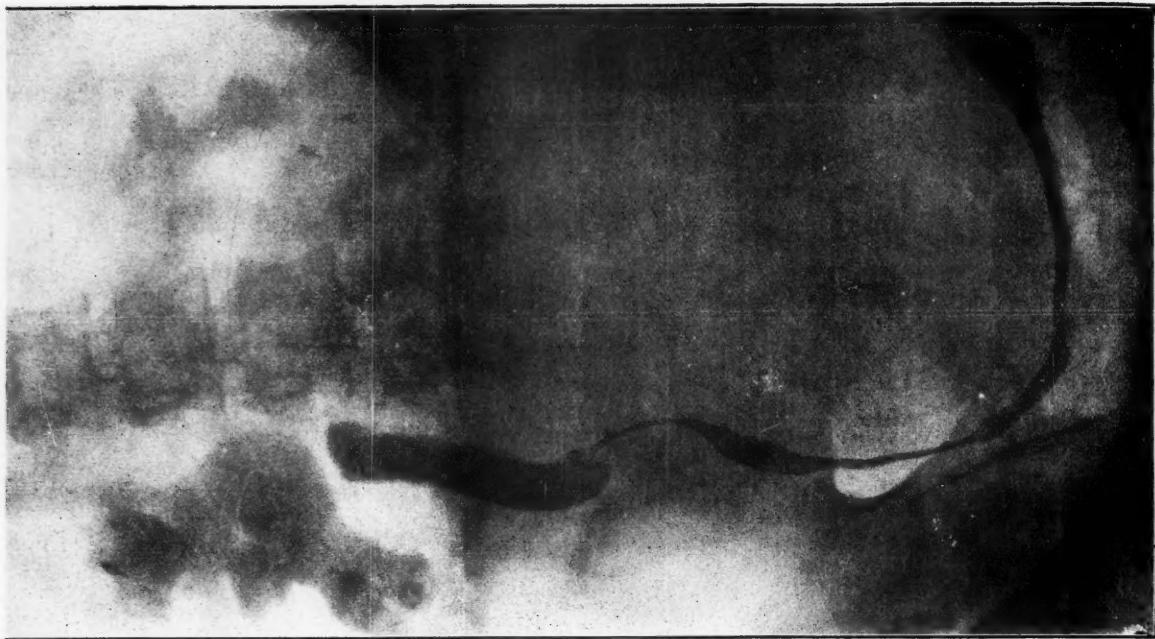
Case 1.—Normal pyelogram from a case of suspected hydronephrosis, showing full distension of pelvis and calices of large type. On the right of the photograph is a normal funnel-shaped pelvis, on the left a dichotomous pelvis (left side of radiogram corresponds to right side of patient, and vice versa).

Fig. 2



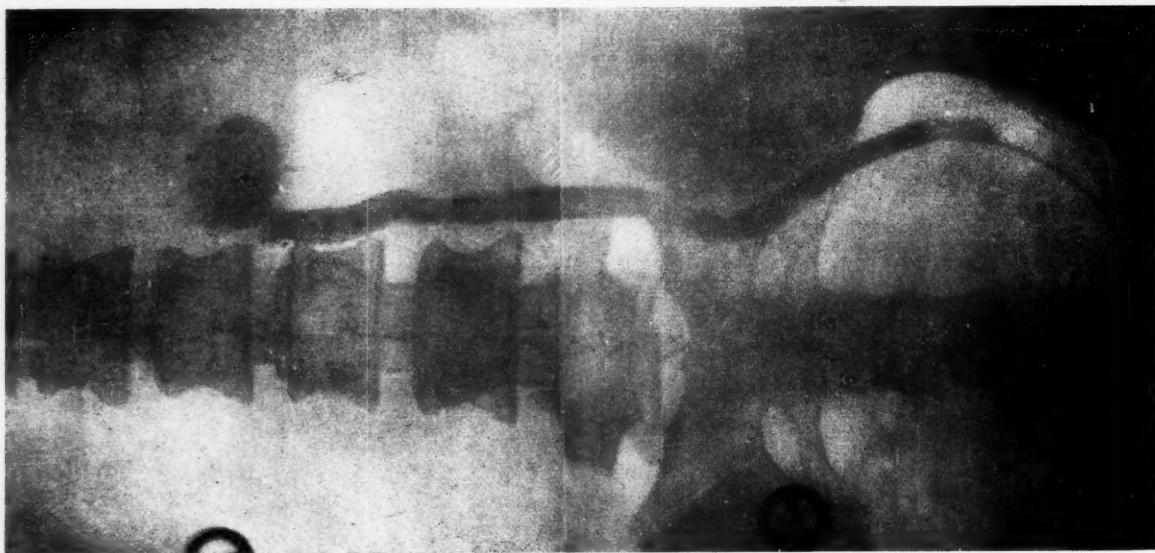
Case 5.—Showing a 4 ounce pyonephrosis, with advanced destruction of kidney tissues; also dilated ureter. The clear lines in the radiogram indicate the trabeculae of the pyonephrotic sac. Opposite kidney normal. (Right side of the photograph corresponds to left side of patient.)

Fig. 3



Case 6.—Pyelogram, showing stricture of ureter, with dilatation of pelvis and ureter (3½ ounces capacity). Some of the emulsion has flowed back into the bladder. The right ureteral orifice is well seen. From a case of acute pyonephritis of pregnancy

Fig. 4



Case 7.—Pyelogram, showing stricture of ureter a short distance from the bladder, with irregular distension of pelvis and ureter. The irregular outline of the pelvis indicates inflammatory encroachment. Probably retroureteral tuberculosis. (Left side of the radiogram corresponds with right side of patient.)

Fig. 5



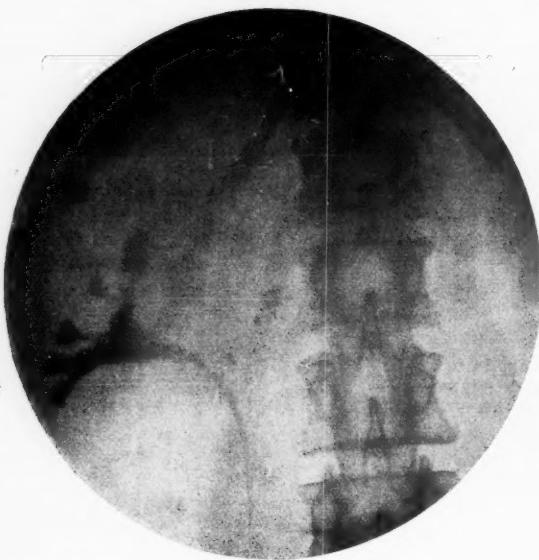
Case 4.—Bilateral hydronephrosis of pregnancy. Right side shows a dilated pelvis and ureter of 2 ounces capacity; left side, hydronephrosis and hydro-ureter of 2 ounces capacity.

Fig. 6



Case 8.—Pyelogram, showing acute angulation of right ureter, opposite lower pole of kidney and second lumbar vertebra, and dilatation above this point. Confirmed at operation.

Fig. 7



Case 2.—Pyelogram, showing a normal kidney after a successful nephropexy. Note the wide sweep of the ureter and the good drainage, following what was apparently a fib suspensory of the kidney.

Fig. 8



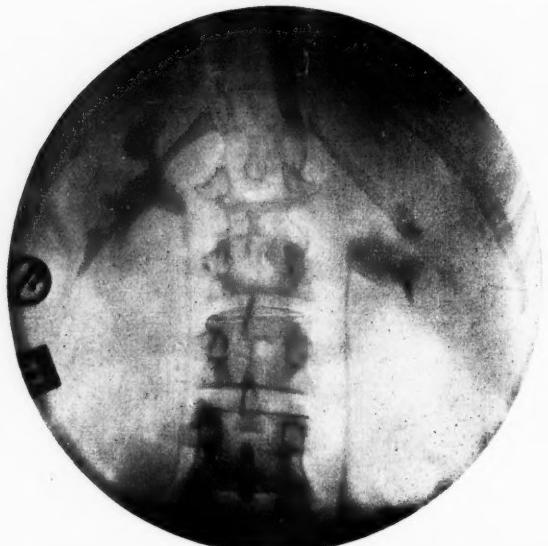
Case 10.—A, shows two doubtful shadows. B., pyelography rules out lower one and localises upper one in renal pelvis. It shows dilatation of highest calyx. (From collection of Dr. Sibley's Mayo clinic.)

Fig. 9



Case 3.—Right side shows early dilatation (evidenced by broadening and clubbing of the calices), due to intermittent ureteral obstruction of the broad ligament.

Fig. 10



Case 9.—Pyelogram shows angulation at uretero-pelvic junction on left side of photograph, with moderate pelvic dilatation. (Right side of radiogram corresponds to left side of patient, and vice versa.)

round cells. So far, no definite evidence of tuberculosis has been found, and the microscopic evidence is indefinite. At the present time (June, 1914) the patient is twenty weeks' pregnant and looks and "feels better than she has felt for years."

Case VIII.—Recurrent attacks of pain in right hypochondrium and back, associated with collapse and unrelieved by appendicectomy. Pyelography showed obstruction of ureter.

Gladys M. aet. 26, patient of Dr. R. I. Furber in the South Sydney Women's Hospital. This case presented many remarkable features and, as Dr. Furber proposes to record it in detail in a subsequent issue of the Journal, only the bare facts of immediate concern will be epitomized. The patient had suffered for several years with severe pain in the right side of the abdomen and back. Appendicectomy had been performed two years ago, without any relief. Pyelography (Fig. vi.) showed acute angulation of the ureter opposite the lower pole of the kidney, with dilatation of the pelvis and ureter above this point. The patient did not come to operation until four months later. (July 4th, 1914), when an acute infection suddenly supervened in the obstructed kidney. This demanded an immediate nephrectomy. The ureter was found obstructed at the situation shown in the pyelogram. The kidney had not at any time been palpable. On several occasions while under observation she had very severe attacks of abdominal pain and vomiting, associated with collapse of such severity as to suggest rupture of a viscus.

Case IX.—Recurrent attacks of severe pain in the right hypochondrium and back. Pyelography showed angulation at uretero-pelvic junction and dilatation of the pelvis.

Clara U. aet. 26, had suffered with painful attacks round the right half of the waist for about 6 years, for which no very evident cause could be found. During her first pregnancy, 3 years ago and again during the puerperium she had moderately severe attacks of pyelitis on the right side. She recovered from these under medical treatment, and was treated for several months with an autogenous staphylococcus aureus vaccine. The pus and organisms eventually disappeared from the urine. The painful attacks, however, continued intermittently, without any disturbance of micturition. The kidneys were not palpable. At the time of examination (June 12th, 1914), Dr. Tebbutt reported the urine clear except for a few granular epithelial casts. The pyelogram (Fig. x.) shows well marked angulation of the uretero-pelvic junction, with moderate pelvic dilatation (on the left side of the photograph which corresponds to the right side of the patient). The left kidney, pelvis and ureter were normal. The angulation was probably due to an aberrant renal vessel, or to high insertion of the ureter. Operative intervention and its nature are clearly indicated.

Reports of Cases.

TWO CASES OF SYPHILITIC GUMMATA.

Alan Newton, M.S. (Melb.),

Surgeon to Out-patients, Melbourne Hospital.

The following cases of Gummata present what are now-a-days rather unusual manifestations of Syphilis.

A. D., male, aged 49, labourer, was admitted to the Out-patient Surgical Clinic, at the Melbourne Hospital, complaining of a swelling of the outer end of his right clavicle.

Thirteen years ago he was infected with syphilis, and treatment was commenced when secondary symptoms were noticed. The administration of mercury and potassium iodide had been continued with short intervals up to the present time. Twelve months ago a mass was noticed in the sub-cutaneous tissue over the right pectoralis major muscle (between the clavicle and the nipple). It displayed no amenable to specifics, and was therefore excised six months after its appearance, and was diagnosed microscopically as a gumma. At this time the clavicle presented no abnormality. The patient then absented himself from the hospital, returning six months later on account of the enlargement of his right clavicle. He explained that he had been engaged in heavy "pick and shovel" work, and had noticed an occasional sensation of numbness in his right hand. He then discovered a small nodular mass in the outer end of his clavicle, which had since slowly increased in size, but had not caused any discomfort.

Examination: The patient is a well-nourished muscular man. A vertical scar three inches in length is pierced

over the right pectoralis major muscle, terminating inferiorly just above and to the right of the nipple.

The outer third of the clavicle is thickened by irregular berry outgrowths, forming a nodular mass measuring $1\frac{1}{2}$ inches longitudinally by $1\frac{1}{4}$ inches transversely.

No muscular, nervous, or vascular changes could be detected in the right upper limb. The X-ray photograph (see fig. 1) shows thickening of the outer end of the clavicle and irregular long outgrowths from each surface of the bone.

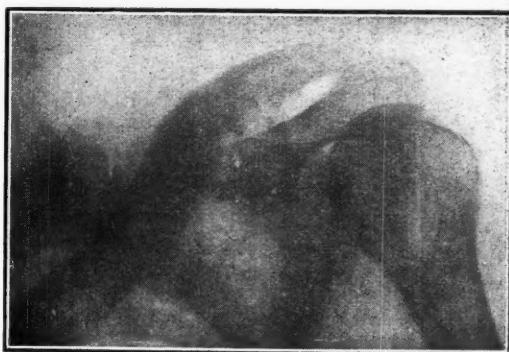


Fig. 1

The Wassermann reaction was strongly positive.

Syphilitic disease of the clavicle usually affects the sternal end of the bone, but in this case it is not improbable that the gummatous process spread by "the contagion of continuity" from the subcutaneous lesion of the clavicle, thus accounting for the localisation of the disease in the outer third of this bone. It is interesting to note the development of these gummata in a patient who, for 13 years, had received almost continuous mercurial treatment, combined with large doses of potassium iodide.

The larger tendons are particularly attacked by syphilis, which may appear as a fibrous peritendinitis, or as a localised gumma. These conditions are both illustrated in the case of W. A., male, aged 55, cook, who attended the Out-patient Surgical Clinic of the Melbourne Hospital, complaining of swellings of the achilles tendons. He stated that 30 years ago he had noticed a "sore on his penis," which healed without treatment in a few weeks. Three years ago he was admitted to the Melbourne Hospital suffering from a left hemiplegia. This was successfully treated by the administration of anti-syphilitic remedies, no paresis being apparent three months later; when the patient ceased to attend the hospital. It was noted in the Ward clinical history that both achilles tendons were somewhat thickened. This condition passed unnoticed by the patient until three months ago, when the right tendon began to increase rapidly in size. The skin became thin and red over the mass, and 14 days later five softened areas burst, and have since freely discharged pus. There was no pain, and the patient could walk without success.

Examination: A rather anaemic poorly nourished man. There is a large gumma (see figs. II. and III.) of the right tendo-achilles, extending from a point $1\frac{1}{2}$ inches above the os calcis to the caudal extremity of the gastrocnemius muscle. The transverse measurement of the swelling at its widest part is six inches. Five freely discharging sinuses are present, and the intervening skin is thin and pigmented. The mass is freely movable laterally over the subjacent bone, and is not tender.

Examination of the left tendo-achilles revealed a diffuse peritendinitis forming a firm fusiform swelling 5 inches in length and 2 inches in diameter at its widest part. The skin is not involved, and the condition gives rise to no discomfort. There is a bilateral prepatellar bursitis of a chronic fibroid type.

The Wassermann reaction was strongly positive.

I am indebted to Dr. Tait, Resident Skiagraphist at the Melbourne Hospital, for the X-ray plate, and to T. McAdam, student in charge of the case, for the photographs.



Fig. II.

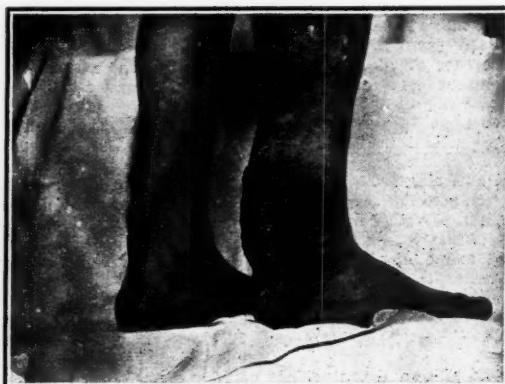


Fig. III.

Medical News.

In his speech delivered at the opening of the fourth session of the eighteenth Parliament of New Zealand, His Excellency the Governor dealt in the following terms with certain matters affecting the medical profession:—

The ever-increasing demand on the part of the public for treatment in our general hospitals will entail addi-

tional expenditure upon buildings for the reception of patients, and for the maintenance of patients admitted to those institutions.

The decrease of infantile mortality in New Zealand is most gratifying, and fully justifies assistance being afforded by the Government to the Society for the Health of Women and Children in its efforts to disseminate by its literature, and by the training of nurses and midwives, a wider knowledge of all that pertains to the successful rearing of infants.

Early this year New Zealand welcomed at Auckland the tenth session of the Australasian Medical Congress. My Advisers are giving earnest consideration to the conclusions arrived at by the Congress.

During the present year the British Association will hold its meeting in Australia. It has been arranged that some of the distinguished scientific gentlemen attending that meeting shall afterwards visit New Zealand and deliver addresses on their special subjects.

For the second year a Bill for the prohibition of experiments on living dogs has passed its second reading in the House of Commons. It will be remembered that this Bill as well as other anti-vivisection Bills, have been introduced by private members every year. The Bill in question has been considered by the Grand Committee, and after debate has been rejected. Considerable vigilance is required to oppose these movements annually, and the thanks of the profession in England are due to the Research Defence Society for looking after the interests of experimental science.

Four qualified veterinary surgeons and four certificated lay inspectors of meat have been appointed to the inspecting staff of the Customs Department. The veterinary surgeons will be stationed in Queensland, while the inspectors will undertake their duties all over the Commonwealth. The objects of these appointments is to guarantee the soundness of exported Australian meat.

The school at Bell Street, Melbourne, is, we understand, to be utilised by the Education Department for the training of a staff of teachers for feeble-minded children. After having passed through the course of instruction, the teachers will, it is anticipated, be drafted to various centres throughout the State of Victoria. At present there is no indication of any legislative or other steps being taken to provide special institutions at which the feeble-minded may be cared for and trained.

The Minister of Health of Victoria has intimated, through the Mayor of Bendigo, to the Watson Sustenation Fund Committee that he agrees with a scheme for the distribution of special grants to persons suffering from phthisis and some other chronic diseases. The Fund Committee granted sums of from £3 to £5 to the widows of deceased members. Applications had been made for assistance in several very distressing cases.

Two anti-vaccinationists at the police court on Monday were fined £1 for failing to comply with the law in regard to their children.

Dr. Eugen Hirschfeld has been elected to the Legislative Council of Queensland. Dr. Hirschfeld occupies the position of German Consul, having followed the late Herr von Plonies. He has received a decoration from the German Emperor, since his appointment. He is also a member of the University Senate and of the Queensland Medical Board and has given time and attention to the study of bacteriology.

Dr. A. W. Scott-Skirving, M.B., Ch.M. (Sydney) has passed the first professional examination in anatomy and physiology for the Fellowship of the College of Surgeons of England.

Dr. Wallace, M.B., Ch.M., and Dr. Colvin Storey, M.B., Ch.M. (Sydney), have passed the final examination of the Fellowship of the College of Surgeons of England.

Medical Journal of Australia.

SATURDAY, JULY 11, 1914.

The Lister Hall in Adelaide.

The opening of the Lister Hall in Adelaide by the South Australian Branch is an event of considerable importance in the history of the British Medical Association in Australia. The advantages of the possession of a home by the Branch are great. In the first place, the South Australian Branch is thereby placed on an equal footing with the Victorian, New South Wales, and Queensland Branches, and its stability will be enhanced by the proprietorship of a solid building of its own. We understand that it is merely a question of a short time before the house is definitely acquired by the Branch. The building, which formerly belonged to the Young Women's Christian Association, has been suitably and efficiently adapted to its present purpose, and the Hall, which bears the name of the greatest benefactor of mankind—Lister—is large enough and well enough equipped to serve all the purposes to which it may be put by the Branch. In the second place, since the Association in Australia is rapidly being unified, it is essential that every large city in the Commonwealth should possess a central building where the business can be conducted by a suitable staff of workers. The time has gone by when a Branch can stand alone, fight its own battles by itself and determine on a policy without consultation and co-ordinate action with other Branches. All the medico-political and medico-ethical work confronting the profession must be deliberated on by the Federal Committee, which represents the combination of Branches and determined by the majority of members in the whole Commonwealth.

The choice of the name of the Hall was a very happy one. The erection of a lasting memorial to the illustrious Lord Lister, is particularly appropriate, and the name of the Hall will be a constant reminder to the members of the fact that Lister's work brought lasting benefit to the whole world and not merely to a section of it. Lister never allowed the consideration of his own immediate and

personal advantage to affect his doctrines. He worked for the good of the peoples of his own times and of the times to come. The profession in Australia will do well to emulate his example and to regulate its affairs in such manner that a good understanding between the public and itself may emanate and last for all time. In his delightful address on Lord Lister, which will be found in the columns of this issue, Sir Harry Allen illuminates many aspects of Lister's greatness.

He speaks of Lister's achievement in removing from our practice those terrible scourges, septicæmia and pyæmia, hospital gangrene and puerperal fever. He deals with the nature of the work and with its effects as only a surgeon who has experienced the old order of affairs and then the new can deal with them. That Lister achieved this under the circumstances obtaining in his early days is little short of a marvel. Few men working in the laboratory to-day can form any conception of the conditions under which Lister, Pasteur, and Koch carried out their epoch-making discoveries. The equipment of those days was primitive, and the greater part of the apparatus used in their experiments had to be devised and made by the workers themselves. It is interesting to recall the reasoning which led Lister to set up the thesis that the body fluids were sterile. He recognised that when a wound is protected from infection from outside decomposition does not take place, and deduced from this that the body fluids must be sterile. In the instance of urine, he found that with care a proportion of samples collected in flasks plugged to exclude air remained free from gross contamination, and were quite clear after many days. We wonder whether his faith would, in those early days, have been shaken had his equipment been more subtle. It is now known that the fluids of the body are not sterile, but that the inhibitory action of leucocytes and their products prevent parasitic micro-organisms from becoming a danger to the body. The sterility of urine can only be proven if it be withdrawn by puncture of the bladder. Normal healthy blood undoubtedly catches up bacteria which pass out from the intestine, and fixes them before they can grow in the tissues. On page 42 of this issue will be found an account of a case of

a woman who had been well for upwards of 14 years, and yet harboured typhoid bacilli in her blood. Lister was justified in his deductions in regard to these elementary facts, but only in so far as the general application to putrefying, decomposing and pyogenic organisms is concerned. His extraordinary insight into the nature of the infecting bacteria enabled him to formulate his doctrines in regard to the treatment of wounds, and these hold good to-day. His example should stimulate members of the British Medical Association in Australia that to attempt to recognise from among the theories and observations at their disposal those things which in the main will bear the test of time, and which will be for the lasting good of both the profession and the public.

MEDICAL RESEARCH UNDER THE ENGLISH INSURANCE ACT.

It will be remembered that in his National Insurance Act, Mr. Lloyd George made provision for certain funds to be ear-marked for the purpose of research. One penny of the Government's contribution of 2d. might be utilized by the Insurance Commissioners for this purpose. This amounts to about £57,000 per annum, and is entered under the rubric of "Sanatorium benefit." Mr. Lloyd George appears to have had some vague ideas when introducing his Bill, that tuberculosis could be stamped out if a small sum of money were provided for research, and if every person suffering from the disease were placed in a sanatorium. The provision of beds for tuberculous patients is proceeding at a slow pace, and in every area tuberculosis medical officers have been, or are being, appointed for the purpose of assisting in the early recognition of the disease, and of seeing that suitable treatment is applied. These provisions will no doubt be able to affect the incidence and mortality of the disease to a not inconsiderable extent, and provided that the tuberculosis officers do not attempt to interfere with the practitioners in their dealings with private patients, the scheme should prove a great value. So far, the general medical practitioner and the tuberculosis medical officer have worked amicably, and no difficulty had arisen from state interference. The question of placing state organized research on a satisfactory basis is, however, a much more difficult and delicate matter, and the Treasury has not been altogether happy in the course which it followed at the start. It will probably be remembered that the first step to give effect to this provision of the Act was the appointment of a Departmental Committee under the chairmanship of Mr. Waldorf

Astor, to consider and report. The "Astor Committee" advised the appointment of two bodies one a small active committee to undertake the actual work, and the other a large representative committee, to which all the decisions of the smaller committee should be referred for criticism, before being laid before the responsible Minister for approval. A highly paid secretary was to be appointed to render the work of the committee as effective as possible, and it was recommended that the secretary should serve both committees. It appears that in the Astor Committee opinions were crassly divided. Centralization was favoured by the minority, but the majority urged that the work should be carried out as far as possible in existing laboratories attached to the Universities and special Institutions. The next step was the appointment of a Committee of nine, with Lord Moulton of Bank as Chairman. The personnel of this Committee is of some importance. While every member was chosen for his special abilities, experience and knowledge, it is obvious that the majority of them are neither expert in research nor in the organization of a great national scheme. Scientific research is represented in the persons of Sir William Leishman, F.R.S., Dr. W. Bulloch, and Dr. Gowland Hopkins, F.R.S., all men of high scientific attainments. Sir Clifford Allbutt and Mr. Bond represented clinical medicine and surgery, and Professor Mathew Hay hygiene, while Dr. Addison and Mr. Waldorf Astor may be regarded as sound politicians, with good knowledge of general medical affairs. The Committee is known as the Medical Research Committee. A large Committee, called the Advisory Committee, was also appointed, but it now appears that this body is rather ornamental than useful, in so far as it is not consulted by the Medical Research Committee at all. For many months the latter Committee worked steadily and with the utmost secrecy. Not a single announcement was made officially, while rumours were floating about London, no fact was known until the authorities of the hospital announced that the Mount Vernon Hospital for Consumption had been sold to the Committee for the purposes of the research scheme. We learn from the British Medical Journal of May 30th that some nine appointments have been made by the Committee, and the name of Dr. W. Morley Fletcher, of Trinity College, Cambridge, is mentioned in connection with one of these. But even in this regard no public announcement has been made. The scheme at first appeared to take the form of establishing a central research institute at the Mount Vernon Hospital in Hampstead under the direction of Sir Almroth Wright. Some dissatisfaction was expressed, and

this increased when the announcement of the purchase of the hospital appeared in print. The idea of centralization had been refused by the Astor Committee, apparently to be revived by the Medical Research Committee. It was further felt that the sum of £57,000 per annum was so small that if a large share were devoted to the purchase and upkeep of a relatively large institution, not enough would be left over to encourage sound work in other places. Shortly after this announcement it was rumoured that a proposal was being considered which would entail the handing over of the Lister Institute to the Government. The Lister Institute is governed by a Board and its funds are derived from donations, as well as from the proceeds of the sale of sera, vaccines, etc. Lord Iveagh, who gave £250,000 to the Institute in its early days, is by far the greater benefactor, and it can be stated that the handing over of the Institute to the Government would be practically a gift of something approaching half of a million pounds sterling from Lord Iveagh. It is inconceivable, if this rumour have any foundation in fact, that any Government could hesitate in accepting so tempting an offer, and we would venture to express the opinion that no Chancellor of the Exchequer could refuse to provide a handsome annual sum for its adequate upkeep were the offer accepted. It would, therefore, appear that the original schemes of the Medical Research Committee, whatever they may have been, are undergoing considerable mortification, and it is to be hoped that medical research will be benefited, not merely by the institution of a comparatively limited department at Hamstead, but by generous and liberal support from the Government. These things may have to be taken into account sooner or later in Australia, and if it is hoped to be that if any schemes are promulgated by the Federal Government, or by any of the State Governments for the provisions of research, the negotiations and early organisation will, unlike in the English case, be conducted without any secrecy and reserve, and that no attempt will be made to carry a large scheme into effect on a ridiculously inadequate annual outlay.

PROPOSED HEALTH LEGISLATION IN NEW SOUTH WALES.

The Minister for Public Health of New South Wales continues to build up his health programme

at an almost alarming rate. Last week announcements were made of pending legislation directed to the eradication of consumption and providing for better conditions during the convalescent period after illness, the lactation period after confinement, and for adequate dental treatment of school children, as well as an improvement in regard to hospitals and the provision of medical nursing attendance for women during their confinement. The "Daily Telegraph" of the 6th inst. devotes nearly a column to the Minister's scheme for the care of mothers and their infants. It appears that infant clinics will be established, where antenatal instruction will be given, and where the young mother will receive advice in regard to the proper treatment of her newborn infant. The District Nursing Association and the Bush Nursing Association, co-operating with the Alice Rawson School for Mothers, will form the starting point from which the organization for carrying out the scheme will arise. The central organization will have Government representation and sub-committees will be formed for carrying out the work in the various localities. At first nurses will visit the homes of expectant women and young mothers, and at a later date one or two clinics will be started. The Minister proposes to provide £5000 for the coming year for this purpose, and if the scheme develops as he anticipates it will, he will bring this amount up to £10,000 for the ensuing year. Infant clinics, infant consultations, or schools for mothers have achieved a great improvement in the hygiene of the infant in various parts of Europe. In some cases there is no doubt that the mortality among children of under one year of age has been materially diminished by the establishment of institutions of this kind. But, in dealing with any serious attempt to remedy a high infantile mortality, it is essential to place the sole management of every institution, whether for the purpose of holding a watching brief and imparting instructions, or for the purpose of detecting abnormalities and treating them, into the hands of a thoroughly competent medical practitioner. The experience of Budin in Paris, who succeeded in making over 95 per cent. of the women who attended his clinic nurse their own babies, shows that however well a nurse may be trained, and however efficiently she may carry out her duties, she can never achieve that effect which is attainable at the hands of a skilled practitioner.

SURGERY.

(10). Transfusion of Blood in Diabetes Mellitus.

B. O. Raulston and R. T. Woodyatt (*Journ. Amer. Med. Assoc.*, 28th March, 1914) record their experience of direct transfusion of healthy blood into the circulation of a diabetic in the last stages of the disease. The rationale of this treatment depends on the following considerations. A portion of the pancreas representing about one-fifth of the organ can be successfully transplanted into the abdomen of a dog. The dog's own pancreas can then be extirpated without the production of glycosuria. But if the implanted piece be then removed, severe diabetes supervenes. Further, it has been found that the blood of animals who have been depancreatized does not possess positive diabetogenous powers. This supports the view that the pancreas secretes into the pancreatic veins a substance which is necessary for the normal utilization of sugar. A number of physiologists have attempted to demonstrate, directly or indirectly, the nature of this substance. One series of experiments sought to solve the problem by the direct transfusion of the blood of a normal dog into a diabetic dog, without providing any return circulation. The authors point out that experiments of this kind do not necessarily indicate that when the transfusion is followed by a diminution of the sugar excreted, the diabetes is essentially affected. The sugar may be merely retained. The second class of experiments were conducted by setting up a cross circulation between the normal and the diabetic dog. The results of these experiments are explained in two ways. In the first place, the internal secretion passes from the healthy to the diabetic animal and provides for the utilization of the sugar in the latter. Secondly the dogs whose pancreas has been removed actually becomes diabetic owing to the fact that the unutilized sugar and the other metabolic products of diabetes accumulate in the circulation. During pregnancy these products may pass over to the foetus, or during the cross circulation experiments to the healthy fellow, and since they can be dealt with by the healthy organisms, the effects are not manifest on the diabetic animal. In the third series, the index of the effect of the transfusion was the percentage of sugar in the blood and not in the urine. In these cases, no evidence was available that a diabetes could be essentially influenced by this procedure. The authors, notwithstanding the slight encouragement held forth by the results of these researches, determined to test the therapeutic effect of transfusion of healthy blood in a desperate case of diabetes. All the available remedies had been tried without effect, and it was obvious that the patient was rapidly approaching death. 500 c. cm. of blood from a healthy donor was introduced into the veins of the diabetic. The result was a marked in-

crease of sugar, ammonia and acetone in the urine and the ratio of glucose to nitrogen excreted also increased. Clinically the patient was no worse after the transfusion than before, but he was not improved and died later of diabetic coma. They conclude that transfusion is definitely contraindicated in severe diabetes mellitus.

(11). Typhoid Bacilli in the Blood of a Healthy Carrier.

E. Ebeling (*Berl. Klin. Woch.*, 13th April, 1914) records a highly interesting find in connexion with a so-called "typhoid carrier." An epidemic of enteric fever had been watched with some anxiety by the Health Department for a number of years, and suspicion was aroused in regard to a certain woman. Samples of urine and faeces were asked for, but the test applied proved negative. The woman herself had had a severe attack of the disease in 1900. In spite of the negative results, the authorities kept the woman in view, and when a child sickened with typhoid fever in a house immediately opposite the house of the woman, a closer study was made. It then transpired that the woman had passed off her husband's urine and faeces for her own on all the previous occasions. A blood sample was taken with all precautions, and the serum was found to agglutinate typhoid bacilli in a dilution of 1 : 200. The clot was mixed with sterile ox-bile and typical bac. typhosus grew copiously. After five weeks, the agglutination titer was found to be 1 : 100, and the clot was then quite sterile. Ebeling believes that typhoid bacilli have never before been demonstrated in the blood of a healthy person whose temperature was normal and who did not present any signs of disease.

(12). Diabetes and Carbohydrates.

Arany (*Zeit. f. phys. u. diat. Therap.*, March, 1914) states that in glycosuria e saccharo the glycosuria ceases when the sugar is withheld from the diet. A reasonable reduction of starch-containing foodstuffs may further prevent this condition from progressing into a true diabetes. The author considers that in starch glycosuria the patient should be given a moderate amount of albumin, a quantity of starch representing not more than two-thirds of his tolerance amount; and a free supply of fats. The majority of moderately severe cases of glycosuria may be traced to an excessive ingestion of albumin; and for this reason the quantity of albumin should be carefully regulated. He only admits carbohydrates in the diet when acetone is present in the urine or when their administration does not appreciably increase the glycosuria. Under the latter conditions, it will be found that the addition of carbohydrates to the diet is an advantage, because this economises the albumin metabolism. In severe cases of diabetes, carbohydrates must be given, since they represent the only substances which

are capable of preventing or diminishing acidosis.

(13). The Therapeutic Value of Neosalvarsan.

Kent Nelson and E. F. Haine (*Journ. Amer. Med. Assoc.*, 28th March, 1914) states that the routine treatment of all syphilites in the United States Military Prison Hospital, Fort Leavenworth, since the 1st April, 1913, has been the injection of neosalvarsan combined with intensive mercurial treatment. 108 cases have been dealt with in this manner up to 10th January, 1914. In 33.3 per cent. of the cases the Wassermann test, which had been positive, became negative. The mercurial treatment consisted at first in giving the iodide of mercury, and later in injecting intramuscularly the salicylate. In addition, inunction treatment was resorted to. The authors found that five injections of neosalvarsan combined with intense mercurial treatment did not give such good results as did one dose of salvarsan. The results were estimated by the effect on the Wassermann reaction. They are of opinion that four to five times as much neosalvarsan, as salvarsan would be necessary to obtain apparent cures in 70 or 80 per cent. of the cases. This repeated injection necessarily involves a greater expenditure, and, both from the point of view of a rapid effect and for the sake of economy, salvarsan is to be preferred. They place the utmost reliance of the complement fixation test, both for diagnostic purposes and for controlling the effect of treatment, and are inclined to advise that two or three tests should be carried out in all doubtful cases.

(14). Orthostatic Albuminuria.

Fitzsimmons (*Boston Med. and Surg. J.*, Nov., 1913) records a case of a girl, aged eight years, of previous good health and family history. She had had abdominal pain for three weeks before admission, the pain coming on three or four times a day without relation to food, and referred to the umbilicus. The appetite was poor, and there was persistent constipation. On physical examination the patient was found to be normal in all respects, except for marked lumbar lordosis, with sagging of the abdomen forwards. The urine was repeatedly examined, and it was found that the amount of albumen was regularly increased by standing, or by emphasising the lordosis, while rest and correction of the spinal deformity decreased the amount. Exercises were commenced with a view to lessening the lordosis, and increasing the muscular power of the abdominal wall. There was marked improvement in the patient's habitual posture, and after three weeks the albuminuria had disappeared, and though the urine was examined regularly for six subsequent months no trace of albumin was again found.

NEUROLOGY.

(15). **Sensory Changes in Friedreich's Disease.**

Saunders (Brain, Vol. 36, pt. 2, 1913) describes his investigations on the disturbances of sensation in 20 cases of Friedreich's disease under observation in the National Hospital for the paralysed and epileptic, Queen Square. He refers to the fact that in the classical description of the disease, although it is admitted that loss of some or all forms of sensation may occur, yet this is regarded as altogether exceptional, although pathological change in one of the great sensory paths of the cord is one of the essential features of this malady. The appreciation of touch, pain, and temperature are very irregularly affected in the upper extremities and never to any marked degree. When a loss does occur it is usually only a slight blunting of tactile, very rarely of painful, or of thermal sensation. In the lower extremities the disturbance is more marked, and there is often some distal hypoesthesia to light touch, or even to pressure touch, and in many cases also to pin prick and to heat and cold. The form of sensation most commonly affected, however, is that included under the term "deep sensibility," but the appreciation of simultaneous contacts and of size, shape and form, is most severely affected. A disturbance of the sense of position, and the recognition of passive movement, of the appreciation of double contacts and of vibration is almost always present, especially in the distal parts of the lower limbs, and not infrequently, though to a less degree, in the upper limbs as well. The frequency and constancy with which these three elements of sensation are disturbed are characteristic of the disease. The recognition of shape and form, and the appreciation of size and weight, are also effected, but much less frequently and less seriously than the sense of position, the appreciation of compass points, or of vibration. The elements of sensibility therefore, which it is assumed are conducted through the dorsal columns of the cord, would seem to be disturbed in this disease more or less constantly. These have been divided into two groups. The recognition of two points of the compasses, and the appreciation of size, shape, and form which are dependent at the periphery on the integrity of the cutaneous nerve-endings, would seem to run in one group; and the sense of position and of movement, the recognition of vibration and the appreciation of weight, which are dependent peripherally on nerve-endings in joints, tendons, and muscles, apparently compose another group. In a disease such as Friedreich's ataxy, where there is a very slow progressive degeneration of the dorsal columns of the cord it is inevitable that though the sensory loss may

conform to a definite type, there must be much variability in the relative intensity of the affection of the different elements of sensibility in different cases. The frequency, however, with which a characteristic sensory loss does occur would seem to justify its inclusion in the clinical picture of the disease as an integral and not as an exceptional feature; and, further, the constancy and regularity with which this loss involves the sensory impulses assigned to the dorsal columns of the cord goes to confirm the conclusions regarding sensory conduction in the cord that have been obtained by the clinical and anatomical study of local spinal lesions.

(16). **Acute Generalised Paralyses in Adults.**

Warrington ("Liverpool Medico-Chirurgical Journal," January, 1914) states that several acute diseases may attack the nervous axis and its peripheral nerves, and bring about an extensive paralysis: (1) Acute toxic polyneuritis—the causal agent is rarely recognisable, and few opportunities have occurred for a study of the anatomical basis. (2) Acute poliomyelitis—doubtless due to the same infective organism which causes the ordinary form of infantile paralysis, and characterised by the same pathological lesions. (3) Landry's paralysis—a disease the nosological position of which has been much discussed, but which, in the writer's view, is certainly a distinct clinical, and probably an equally distinct pathological, entity. The importance of a diagnosis is obvious when it is stated that in acute toxic polyneuritis the termination is nearly always a complete recovery; in Landry's paralysis the event is either rapid death or complete recovery; whilst in poliomyelitis a fatal result is rare, but some permanent damage usually remains. The points on which the author lays stress in the diagnosis of the two former diseases are the following:—In toxic polyneuritis the onset is quick but not sudden, with malaise and fever. The limbs and especially their peripheral parts are most affected, the trunk may be invaded, and the most marked incidence may be upon the diaphragm. The face is most commonly affected, sometimes the vocal cords, palate, and oculo-motor nerves. There is muscular hyperesthesia, marked paraesthesia, and slight objective loss of sensation. The superficial reflexes are often retained; the electrical reactions usually lost or diminished. In poliomyelitis the onset is more sudden, with malaise and fever. The paralysis at first is more symmetrical and universal in the limbs, then one or several groups of muscles rapidly improve. The thorax and abdominal muscles may be profoundly paralysed. The face, perhaps, is the most commonly affected; conjugate ocular paralysis is highly significant. There is more often complaint of pain in the back, discomfort and

cramps, pain in moving the limbs, not so often paraesthesia. The superficial reflexes are lost, and the electrical reactions are retained in some groups of muscles. The diagnosis of Landry's paralysis, if the case can be watched for a day or two, may not perhaps be so difficult. At the onset the pain and constitutional disturbance are less than in either toxic polyneuritis or poliomyelitis. The electrical reactions are of great importance, for although this disease is often fatal, it has long been known that the muscles have been excitable to the end.

(17). **Subcortical Aphasia.**

F. X. Dercum contributes to the "Journal of Nervous and Mental Diseases" for March, 1914, the following case:—A man of 32 years of age, a machinist and right-handed, suddenly became unable to talk, and at the same time became weak on the entire right side of the body. Examination revealed a paresis of the right arm and leg, more marked paraparesis of the lower half of the face, deflection of the tongue to the right, with some difficulty in swallowing. He had a complete motor aphasia, being unable to make the slightest articulate sound, although he could grunt and make various discordant noises. At the same time the patient's understanding of what was said to him was perfect, and he complied with instructions embodying numerous factors promptly and intelligently. He could read written or printed matter, but of course could not read aloud. He made no efforts at spontaneous writing, nor did he seem able to answer questions by writing except with difficulty. He could write from dictation, and could copy written words placed before him. Under treatment with salsarvan, mercurials, and iodides (the Wassermann reaction was strongly positive) he began to improve at the end of three or four weeks, and he subsequently was able to articulate and be understood, though with some difficulty. Dercum considers this patient to have had a subcortical syphilitic lesion, involving the knee of the internal capsule and probably the adjacent portion of the lenticular nucleus. He does not think that at any time there was any cortical involvement, and the fact which makes the case so interesting is the transition of the anarthria into a dysarthria while the patient was under observation. The symptoms were identical with those described by Déjerine as "aphasie motrice sous-corticale ou pure." In this condition the sole phenomenon consists in the impossibility of the articulation of sounds in all their modes, but all other qualities of language are intact, and the inferior language functionates as in the normal individual." This condition is also identical with what Marle describes as anarthria. There is present but one symptom, and that is the suppression of articulate language,

NATIONAL INSURANCE IN BELGIUM.

A National Insurance Bill has been occupying the attention of the Belgium Parliament for some little time, and has now emerged as a finished piece of legislation. Fifty-seven Liberal and Socialist members declined to accept any responsibility in connexion with the matter, and therefore abstained from voting. The insurance provides for sickness, invalidity, and old age benefit. The insured contribute to all three at a slightly higher rate than that of the English Insurance Act, while the employers' and the Government's contributions are lower. A wage limit of 2400 francs a year distinguishes the compulsory from the voluntary parts of the scheme. The insurance is to be administered by insurance societies, constituted in a similar manner to the English Approved Societies. The contributions of persons who insure voluntarily are lower than those of the compulsorily insured, and consequently they are only enabled to draw reduced benefits. The text of the Act is not yet available, and it is therefore impossible to criticise the scheme in detail. The conditions obtaining in Belgium in regard to the poorer section of society are such as to warrant the introduction of a compulsory insurance scheme. Great care, however, is necessary in determining the provisions of such a scheme in order that it may work for the benefit, and not for the detriment, of the physical and moral needs of the wage-earning population.

AN APPEAL FOR LEPROS.

Mr. James Marshall, of Adelaide, invited a number of prominent citizens to a luncheon on June 26th for the purpose of arousing their interest in the work of the Mission to lepers. Dr. J. C. Vero, the chairman of the local committee, presided. In his opening remarks he spoke of the personal interest which he took in the work, and stated that any relief which might be brought to those afflicted with leprosy must command the special sympathy of medical men. He regarded leprosy as insidiously, but essentially, contagious. By isolating a single leper the spread of the disease to dozens of other people was prevented. The Rev. W. J. Eddy, the Rev. T. Tait and Dr. R. Brummitt also spoke. It appears that the mission to Lepers is an undenominational religious movement, and that its sphere of action is, to a great extent, India. No one would advocate segregation as a means of stamping out any disease were any alternative measure of a less violent character available. The infectivity of leprosy is a subject on which we know but little, and it is by no means certain that the ordinary method of acquiring this disease is through direct contact with the effected person. There is, however, but little doubt that the efficacy of segregation in preventing the spread of this condition has been demonstrated, and but few health authorities would recommend any other method of dealing with this subject. Under these circumstances the work undertaken by the Mission to Lepers will command the admiration and sympathy of all thoughtful persons and the financial support of the well-to-do.

CANCER PAMPHLETS.

The Committee for Cancer Research of the Province of Baden, Germany, considered in June of last year the objection raised by Czerny and Kronig to the publication of certain pamphlets on cancer, on the ground that these pamphlets were calculated to increase the public fear of the disease. We learn from the Berl. Klin. Wochs., of April 27th, 1914, that the German Central Committee for Cancer Research has come to the conclusion that the objections to widely distributed pamphlets dealing with the disease of cancer are ill-founded, and that, while radiological treatment has made great strides in the immediate past, it has not up to the present succeeded in replacing operative treatment. The Committee expresses the opinion that it is impossible at present to form an opinion as to the ultimate result of treatment by radio-active substances, and also points out that in many forms of cancer, e.g., gastric eareimoma, cancer of the colon, etc., radiological treatment is difficult, if not impossible, to apply adequately.

BRUSSELS CONGRESS.

The Twenty-fourth Congress of French-speaking physicians will be held in Brussels from September 20th to October 4th, 1914.

The Congress will be under the patronage of their Majesties the King and Queen of Belgium, and will occupy the "Palais des Academies." The following are the members of the Honorary Executive Committee:

President: Professor Stienon (Brussels); Members: Professors Beco (Liege), Brachet (Brussels), Demoor (Brussels), Denys (Louvain), De Stella (Gand), Dubois-Havenith (Brussels), Dustin (Brussels), Eeman (Gand), Firket (Liege), Gengou, Groulx, Heger-Gilbert, Jacques (Brussels), Leboncq (Gand), Lemaire (Louvain), Maldague (Louvain), Malvoz (Liege), Slosse, Spehl (Brussels), Swaen (Liege), Van Ernengen (Gand), Van Gehuchten (Louvain).

The programme will include the following subjects:

Syphilis of the muscular system. Lipoids in Pathology. The therapeutic value of artificial pneumothorax. Vaccine therapy, with special reference to enteric fever and cancer.

It is anticipated that the following gentlemen will take part in the proceedings:

Professors Vaquez, Vincent, and Chantemesse, of Paris; Spillman and Haushalter, of Nancy; Bayet, Bordet, Zunz, Geeraerd, and Derscheid, of Brussels; and Burnand, of Leysin. The Committee expresses the hope that medical practitioners of other countries will join the Congress, and take an active part, both by reading papers, and by joining in the discussions. Announcements will be made in due course of the social portion of the programme. The subscription to the Congress is 20 francs, and medical practitioners desirous of entering their names are requested to communicate with M. le Dr. Godart Danhieux, 9a, rue Montoyer, Brussels. Members who wish to read papers should communicate this fact to the General Secretary of the Organized Committee, M. le Professor Rene Verhoogen, 22, rue Joseph, II, Brussels.

British Medical Association News.

MEDICO-POLITICAL.

The annual report of the Council of the South Australian Branch of the British Medical Association for the year ending 31st January, 1914, was adopted at the meeting of the Branch, held on June 28th (see "Medical Journal of Australia," July 4th, p. 17). The Branch consists of 220 members, of whom 20 were elected during the year. The Branch sustained the loss of three members by death, namely, Dr. A. E. Wigg, Dr. R. St. Mark Dawes, and Dr. R. M. Brady. Nine ordinary and four special general meetings were held; the average attendance at the general meeting was 35.

Special sub-committees were appointed to report on the subjects of:—

- 1.—The Prevention and Control of Venereal Disease.
- 2.—A National Insurance Act for Australia.
- 3.—A Model Lodge Agreement.
- 4.—The Control of Mental Defectives.

Dr. W. T. Hayward had been nominated to represent the Branches of Victoria, Tasmania, West Australia, and South Australia, on the Council of the British Medical Association.

Dr. W. T. Hayward and Dr. F. S. Hone continued their services on behalf of the South Australian Branch, and have attended meetings of the Federal Committee in Sydney. Dr. Hayward has been re-elected chairman.

Dr. F. S. Hone, Dr. J. Corbin, and Dr. H. S. Newland had been nominated to represent the South Australian Branch, as members of the Australasian Medical Publishing Company.

Friendly Society Lodge Practice.—During the year close consideration has been given to the question of securing a readjustment of the rates paid for contract practices, and of improving the condition of such practice in other respects. ■

Two Conferences were held with representatives of the South Australian Friendly Societies' Association. The Council still awaits an answer to the proposals put forward.

In the meantime, members of the Branch are requested not to sign any new agreements with the lodges.

British Medical Association House.—It is gratifying to the Council to report that the property, known as the "Lady Colton Hall," in Hindmarsh-square, has been purchased by a company, consisting of members of the Branch. Shares in the company, to the value of £1,320, have been presented to the Branch by members. The possession of these shares is the first step towards the ultimate ownership of the property by the Branch. It is hoped that other members of the Branch will act in the same generous manner.

The "Australasian Medical Gazette."—After June 30th, 1914, the "Australasian Medical Gazette" and "The Australian Medical Journal" will be incorporated in a new weekly periodical—"The Medical Journal of Australia."

The Council feels that the thanks of this Branch are due to Dr. G. E. Rennie for the very valuable and unselfish service he has rendered to Australian medical journalism during the period he has acted as editor of the "Australasian Medical Gazette."

The University Library.—The usual annual grant of £50 has been made to the University Library and expended on books and periodicals.

Dr. C. Bollen has presented to the Branch a valuable collection of the transactions of Medical Societies. This collection will be placed in the House of the Branch.

Further donations from members are invited. Gifts of books or periodicals will be welcome, as they may help to make up a series, or will be useful for exchange with other libraries.

Adequate accommodation for books has been provided in the House of the Branch.

Mental Defectives Bill.—It is a matter of satisfaction that a Mental Defectives Bill has been enacted.

Medical Bill.—A Medical Bill, which met with the approval of the Council, was introduced into the Legislative Council, and passed its third reading. No progress, however, was made with it in the House of Assembly.

Registrations effected during the last 12 months emphasise the necessity of amendment of the present Act.

National Insurance.—In response to enquiries from the Commonwealth Statistician a report on this question, in its application to Australia, was drawn up and sent to the Federal Committee. The subject will be brought before the Branch at an early date.

The Balance Sheet revealed a prosperous condition of the Branch.

The following have been nominated for membership in the New South Wales Branch of the British Medical Association:—

- Dr. J. G. Letaigne, Bungalow, R.R.
- Dr. J. M. Hair, Royal Hospital for Women.
- Dr. Lily Holt, Tea Gardens, New South Wales.
- Dr. Norman Dawson Royle, Lewisham Hospital.
- Dr. Robert J. Pritchard, Woollahra.

The following have been elected Honorary Association to the New South Wales Branch of the British Medical Association:—

- Mr. F. T. Grey, Box 886 G.P.O., Sydney.
- Mr. C. C. Minty, North Sydney.
- Mr. G. Hay, St. Paul's College.
- Mr. S. A. Railton, Manly.
- Mr. H. A. Ridler, Glebe Point, Sydney.
- Mr. E. A. Sanbrook, Penshurst, N.S.W.
- Miss Nellie A. Harrison, Randwick.
- Mr. W. Macdonald, Neutral Bay.
- Mr. S. B. Bruce, Snails' Bay.
- Mr. T. K. Potts, Turramurra.
- Mr. Robert Martin, Milson's Point.
- Mr. H. K. Denham, Summer Hill.

We regret that the report of the speech made by Dr. E. W. Morris, President of the South Australian Branch, at the annual dinner of the branch on June 25th, was received too late for publication in the issue of the Medical Journal of Australia last week.

The President in replying to the toast of the British Medical Association thanked Dr. Kenny and the other visitors for their presence, and the former for his kindly references in proposing the toast of the British Medical Association, and remarked on the advantage to the Association of the spirit of reciprocity between the branches as shown by members visiting other States for the purpose of delivering learned addresses, and in other ways. He agreed with the proposer that nationalization was not needed, and gave reasons from the point of view of his State; he referred to the large part of the time of the Council which was taken up by ethical and defence matters, since the absorption of the Medical Defence Association, and hoped that some scheme of subdivision might give better results in working. He deprecated the idea which the Friendly Societies and some members of the profession have that they were out to fight the lodges; the interests of those who did contract work and of the lodges should be to a great extent identical, particularly should they join together to resist nationalization, which would be inimical to the interests of both parties.

Supplementing his remarks at the Annual Meeting in the afternoon, he wished most strongly at this juncture to impress upon all the urgency of unity. He wanted to see during his year of office every medical man in the State come into the fold. Each of them should induce every practitioner in the district, who was not a member, to join. Every man should sink his own minor differences, and be loyal to the Council, supporting them in every way; they should not let their own personal interests influence them in any way against the mature deliberations of the Council, which was acting for the ultimate benefit of the profession. In this way the negotiations would come to a successful issue, and they would win any conflict in which they might enter. They could not go into battle without any organised force and without a reserve to fall back upon, should necessity arise. In regard to an organised force, he stated that this meant that each medical practitioner must be an entirely loyal member of the British Medical Association. The reserve should take the form of an adequate fighting fund to reimburse those who, through loyalty to the body politic, might suffer. It would be bad policy to delay the

organization of the reserves until the time arrived when they wanted to call them out. If they were not ready the organized force would tend to weaken, to hesitate, and even perhaps to desert.

The speaker and his colleagues in Adelaide suggested a monthly sum out of the earnings to start a guarantee. He advised them to accept that, or some other principle, and to act on it in order that they might be victorious in their attack and impregnable in their defence.

NOTICE TO MEMBERS.

July 4th, 1914.

RE "THE MEDICAL WHO'S WHO."

Members of the profession in N.S.W., who are on the Register in Great Britain and Ireland, have received from "The London and Counties Press Association Limited" a circular inviting them to supply information in regard to themselves, their career, their family and domestic history, their amusements, clubs, and other matters, on a form sent to them for the purpose, for publication in a book to be entitled "The Medical Who's Who, 1915."

The Council, having given due consideration to the question of the propriety of responding to the invitation, has expressed the opinion that it is undesirable on general grounds, that medical men should permit personal notices of themselves to appear in the publication referred to, such notices being contrary to the best traditions of the profession, against its interests, and in contravention of the Rule of the Branch, which reads (Article 37) as follows:—"No member shall be a party to the appearance of a notice of his life in the public press or insert any advertisement beyond an announcement of change of address or commencement or resumption of practice." The Council, therefore, hope that members will not respond to the circular.

R. H. TODD, Hon. Secretary,
New South Wales Branch.

Medical Societies.

(Affiliated with the British Medical Association.)

SOUTH SYDNEY MEDICAL ASSOCIATION.

A general meeting of the South Sydney Medical Association was held at 8.35 p.m. on Thursday, June 25, 1914, at the B.M.A. Building, Sydney. Dr. W. C. McClelland, President, in the chair.

It was resolved:—"That the President (Dr. W. C. McClelland) interview the Newtown Ambulance Association, with a view of obtaining full information as to its aims and objects, and that he report such information to the Committee and that Committee take any action that it may deem necessary."

The following resolutions were carried:

(a.) "That notice be sent to the secretaries of all Lodges meeting within the area of the Association, advising that members of the B.M.A. cannot accept upon their list for medical attendance members of the Australian Natives' Association, Phoenix Mutual Provident Society, Limited, and the People's Prudential Benefit Society, Limited.

(b) "That, as the formation of private lodges are prejudicial to the best interests of the profession, no member of this Association shall give his services to any private lodge."

(c.) "That no member shall accept appointment as Medical Officer or as additional Medical Officer of any Friendly Society Lodge without having received from the Committee sanction for such acceptance."

(d.) A motion to the effect "That the Sydney and Suburban Provident Medical Association be requested to consider the advisability of arranging that an examination fee of 2s. 6d. shall be payable by all persons seeking admission thereto," was negatived.

ANNUAL MEETING OF DELEGATES.

Resolved:—That one, if not two, special general meetings should be held for the purpose of instructing the delegates in regard to:—

- 1.—The rules and regulations.
- 2.—The increasing of the annual subscription to the Branch.
- 3.—Representation on the Council of Members residing in the country.
- 4.—Giving power to the Council to delegate its functions to Standing Committees.
- 5.—Sectional meetings of members interested in special branches of medicines.
- 6.—Extending the activities of the branch, so as to include Medical Agency business, Medical Defence, etc.
- 7.—The Common Form of Agreement (1913) between Medical Officer and Friendly Society Lodge—having special regard to the question of modifying the same, and to the advisability of empowering the Council to use its discretion in regard to the exemption of particular Lodges or particular members from its operation, or the modification of it to suit particular places or particular circumstances.

MEDICAL INSPECTION OF SCHOOL CHILDREN.

The system of Medical Inspection of State School children in Victoria, we are informed, is to be extended. The services of bush nurses will be secured. The nurses will report to the departmental staff, and will make themselves useful by giving advice to the parents on the management of children, and hygiene generally. The whole question of medical inspection of school children will be considered by the Victorian Cabinet. It is to be hoped that the inspection will not be left in the hands of nurses, but that efficient school doctors will be engaged at adequate salaries to undertake this important work.

"DR. HEINRICH BROCK" PRIZE.

The Balneological Society of Berlin announces that the "Dr. Heinrich Brock" prize of the value of M. 800 (£40) is to be given for the best article on the "Washing out of the Organism by means of courses of Spa-water treatment." Articles should be sent in to "Herrn Geh. Rat. Prof. Dr. Brieger, Berlin N. 24, Ziegelstrasse 18/19," on or before November 1st, 1915. Each article must be headed by a motto, which should also be written on an envelope in which the name of the author is enclosed.

A NEW JOURNAL.

A new International Journal, bearing the title of "Die Internationale Zeitschrift für physikalisch-chemische Biologie" (International Journal for Physico-chemical Biology) has been started in Germany. The New Journal will be edited by Prof. J. Traube, and will be published in Leipzig and Berlin. The collaborating editors include Ascoli, Asher, Bayliss, Bordet, Hamburger, Henderson, V. Henri, Kornayi, J. Loeb, Madsen, Nicolle, Soerensen, Tapperiner and others. The volumes will consist of six numbers and will be issued at 15s.

ROYAL SOCIETY OF NEW SOUTH WALES.

At a meeting of the Royal Society of New South Wales, held at the Society's House, in Sydney, Mr. Charles Hedley spoke on "The Australian Journal of Dr. W. Stimpson, Zoologist, with an Introduction," and Mr. Halcyon Wardlaw "On the Nature of the Deposit obtained from milk by Spinning in a Centrifuge." The latter dealt with the fat globules, which being lighter than the liquid in which they float, rise to the surface to form cream. Various heavy particles existed which can be precipitated only by spinning in a centrifuge. Two of these had been examined chemically; one was very rich in calcium and phosphorus, the elements essential to young animals for the formation of bone, and the other consisted mainly of the substance caseinogen, from which the solid part of junket was formed.

Public Health.

SMALLPOX IN SYDNEY.

The Director-General of Public Health of New South Wales has received the notification of 14 cases of smallpox in the city of Sydney and the metropolitan district, and three in the country districts (two from Scarborough and one from Newcastle) during the week ending July 5th. One of the patients is three weeks old, one 18 months, two four years, and the ages of the remaining patients vary between 17 and 54 years.

THE SMALL-POX SCARE.

Some alarm has been experienced in Melbourne on account of the discovery of a small-pox case in Sydney, in a person who had travelled by sea to Melbourne on June 26th, stayed at a lodging-house in Collins-street for nine days, and then returned by steamer to Sydney. The inmates of the boarding-house have been vaccinated, the house disinfected, and all efforts have been taken to discover possible contacts. The Minister of Public Health gave instructions to the Federal Director of Quarantine (Dr. Cumpston) to have every passenger and every member of the crews of all vessels arriving on the 5th and 6th carefully examined. Fresh cases of mild small-pox continue to be notified in Sydney, but with the Department of Public Health and the Quarantine Office on the alert, it is unlikely that the epidemic will get out of hand. There is, however, every indication that a rigorously enforced compulsory vaccination will be needed before it can be finally stamped out, and the longer this is postponed, the greater will be the danger of a more serious type of disease developing.

DIPHTHERIA IN VICTORIA.

It appears that the town of Mildura, in Victoria, has been visited by an epidemic of diphtheria during the past few months. The half-yearly returns show that 41 cases were notified, as compared with 7 cases in the previous 6 months. The Chairman of the Board of Health in Melbourne has decided to send one of his assistants, Dr. Jones, to advise as to the means necessary to cope with the epidemic.

TYPHOID FEVER IN BROKEN HILL.

Dr. Birke, the Superintendent of the Broken Hill Hospital, New South Wales, reports that the number of cases of enteric fever at present under observation, is less than any time during the preceding two months. There is no case at present affecting any member of the staff of the hospital.

NO INFECTIVE DISEASE IN CLAREMONT.

No case of any notifiable infective disease has occurred in the municipal area of Claremont, Western Australia, since the last meeting of the Municipal Council.

A DANGEROUS WATER SUPPLY.

The Victorian Board of Health has found it necessary to take energetic steps to force the Malmsbury Borough Council to institute an efficient sewage system. The town is situated within the collecting area of the Colliban water shed, and grave danger exists of the contamination of the water used for household purposes. At a meeting of the Borough Council on the 4th July, it was announced that the matter was receiving attention, and that within a short time the site for the sewage works would be selected.

CANCER IN VICTORIA.

The Chairman of the Victorian Board of Health, Dr. Robertson, has drawn attention to the increase in the mortality from cancer in the State. In the years 1880-1882, it was 4.26 per 10,000 of population; in 1910-11, it was 8.76, and in 1913 it was 9. These figures are the highest cancer death rates in the Commonwealth. In response to his demand, it is stated that a cancer research fund will be established under the control of the Melbourne University. The Government have agreed to contribute to the fund, and a private citizen will also bear part of the expenses.

Dr. Robertson proposes that a medical officer be appointed to tour in Europe and America to gather information. The research into the cause of malignant disease at present occupies a very large number of investigators' attention, and it is therefore highly advisable that steps should be taken to avoid prosecuting the research along lines which are being thoroughly worked out elsewhere.

The Municipal authorities of Hobart have collected some interesting figures which show that, while the incidence of diphtheria has increased during the last two years at a greater rate than the population, this incidence is not alarming. The following table shows that the percentage incidence (on the basis of 100 persons living) of diphtheria is considerably lower than in Sydney or Melbourne.

The correct figures showing these rates should be as follows:-

| Year. | Sydney. | Melb. | Hobart. |
|------------|---------|-------|---------|
| 1909 | 1.86 | 1.48 | 1.11 |
| 1910 | 3.24 | 2.75 | 1.58 |
| 1911 | 2.81 | 5.05 | 2.63 |
| 1912 | 4.94 | 2.32 | 2.92 |
| 1913 | 3.13 | 4.09 | 5.26 |

It will be noted from this table that the rate for Hobart in 1913 was higher than in Melbourne, and considerably higher than in Sydney. The steady increase in the diphtheria rate in Hobart during the last five years is remarkable.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

A monthly meeting of the Senate of the University was held on July 6th at University Chambers.

The degree of M.S. in absentia was conferred on Miss Lillian A. Maclean.

A letter was received from the President of the British Academy stating that a general committee was being formed to consider the best means of honouring the memory of Shakespeare on the occasion of the tercentenary and requesting the University of Sydney to nominate a representative to join the general committee. It was resolved that Professor MacCallum be nominated as such representative.

The following appointments have been made:—Dr. Willis, Principal Medical Officer in the Department of Public Instruction as Honorary Lecturer in the training of school medical officers; Mr. H. Dunstan Vane to give a course of lectures on local government accounting; Mr. J. D. Fitzgerald to give a course of lectures on Local Government Law and Administration; Mrs. Robinson, M.Sc., and Miss M. Little, B.Sc., as representatives of the Senate on the Board of Management of the University Women's Union; Dr. L. H. Allen, Dr. P. R. Cole, Miss Mullarkey, Mr. Middleton, Mr. White, Mr. Waterhouse, and Mr. Elliott as Honorary Lecturers in the Principles and Methods of Teaching; Dr. A. A. Palmer, Dr. J. F. Flashman, and Dr. G. E. Rennie, as examiners in anatomy, physiology, and pathology respectively.

Hospitals.

The New South Wales Government Statistician has just issued his report dealing with hospitals and charities. The report contains a wealth of information. The following are a few of the more important points. During the year ending June 30th, 1913, the State expended the sum of £780,947 on hospitals and medical charities. The medical staffs of all the hospitals in the metropolis of Sydney embraced 314 honorary and 64 salaried practitioners, while those in the country embraced 183 honorary and 138 salaried practitioners; 856 and 711 nurses were employed in the metropolitan and country hospitals respectively; 31,495 per-

sons were admitted to the metropolitan hospitals, and 26,844 into the country hospitals during the year 1912; 459 cases of enteric fever were treated in the Sydney institutions, and 12,082 in the country hospitals; 2,096 cases of diphtheria and croup were treated in the metropolitan, and 1,803 in the country hospitals; 1,615 persons suffering from pulmonary tuberculosis received treatment in hospitals. In Sydney 2,159 women were confined in the hospitals during the year. The death rates from enteric fever worked out at 12.1 per cent.; from whooping cough, 17.9 per cent.; from pulmonary tuberculosis, 21.6 per cent.; from puerperal septicæmia, 20 per cent.; and from puerperal phlegmasia, alba dolens, embolus, and sudden death, 26.3 per cent. The mortality of children under one year of age in the Infants' Homes, and of the State children was 28.9 per cent. for the years 1902 to 1910; 7,878 insane persons were treated in the hospitals of New South Wales during the year 1912. The number of lepers in the Lazaret on the 1st January, 1912, was 18; four fresh cases were admitted during the year; one leper was discharged, one died, and 20 were remaining in the Lazaret on the 31st December.

Ninety-one medical practitioners were placed on the New South Wales register during the year 1912, bringing the total up to 1,895.

The New Zealand Government is increasing the provision for the care of insane persons in Auckland. A hospital for mental diseases is approaching completion in Avondale, which will accommodate 80 females, while another, which is not quite so far advanced, will accommodate 100 males. A third brick building is to be erected in Tokanui in the King Country. It is hoped that when these establishments are in use, it will be possible to carry out a satisfactory classification scheme, and to deal efficiently with each class of mental affections.

Dr. W. L. Cleland, the Resident Medical Officer of the Parkside Mental Hospital (South Australia) has issued his annual report from the year 1913; 168 private patients and 826 pauper patients, in addition to 88 criminal and dangerous patients remained in the hospital at the end of the year. The total number of cases treated in the hospital during the year was 1354, as compared with 1317 during the year 1912; 272 fresh cases had been admitted during the year, 110 patients had died, and 103 had been discharged. The manic-depressive, delusional, and toxic forms of insanity contributed most largely to the discharges. The report contains other material of interest.

At the annual meeting of the Mater Misericordiae Public Hospital in Brisbane, His Excellency, the Governor of Queensland, paid a great tribute to the excellent work of the institution and the splendid self-sacrificing spirit of the Sisters of Mercy. During the year 1137 persons had been treated as in-patients, an increase of 234 on the figures of the preceding year. The number of out-patients was 2197 for the year, which was also considerably in excess of the number so treated in the previous year. The accommodation of the hospital has been increased at the cost of over £3,000. The hospital had an income of about £26,000, 41 per cent. of which was derived from payments made by patients. The Government contributes £1,000, which His Excellency applauded on the ground that he doubted if any similar sum spent by the Government had been better utilized. Other speakers testified to the excellence of the management and work of the hospital.

Correspondence.

Sir.—We have read with interest the remarks of Dr. F. W. Harlin, of Killarney, Queensland, published from time to time in the "Australian Medical Gazette," on the question of the B.M.A. doing its own medical agency work.

Might we be permitted a "Medical Agents' Defence" why we should not be annihilated? In our (naturally biased) opinion we contend "that it would be prejudicial to the best interests of the general practitioner if the commercial work connected with the profession was conducted by a professionally trained man."

Even if a "lay" secretary was appointed, we still contend that the general practitioner's best interests would not be nearly so well looked after, for this reason—lack of incentive.

If a client asked us to sell his practice we should put in more energy than a paid official would do, for the simple reason that it means more to us than it would to him. The same applies when a man writes, say from the back country, asking us to secure him a suitable practice nearer the coast. We see an opportunity of a "double event," and put in the energy essential to bring it about.

Let us give an example. A man in New Zealand once wrote to us that he would like to come over here and buy a country practice. A man with a Western practice had mentioned to us some time previously that he would like to get closer to the Metropolis, if we could secure a buyer for his Western practice. Another client, who had the stamp of practice the Western man was enquiring for, had expressed a desire to come to the city. Here was an opportunity; we started negotiations, brought the New Zealand man over and sold him the Western practice, sold the Western man the practice referred to nearer the Metropolis, and brought the other man into a suburban opening.

Would a paid secretary go to such elaborate trouble? We hardly think so. It was the keen business instinct that impelled it—the knowledge of what the reward would be.

With reference to dealing with locums. Country practitioners are certainly likely to get their interests better looked after by the present mode of working. We must, perchance, use the greatest care, else the man won't come again. A paid secretary would say, if things went wrong, "He was sorry," or "He didn't know it was loaded," and there the matter would have to end.

The writer was just leaving his office one night, when he heard the 'phone ring. An urgent request from a man 50 miles away, who had an urgent business call.

We had no locum available and hardly knew how to help him, but remembered that a doctor, who had called on us, was leaving that night by steamer and that he was disengaged, but not wanting work just then. We hurried off to the steamer, had the good luck to get hold of our man, and within an hour had wired our client: "Everything O.K.; man on his way." Another commission earned. A paid secretary would have said: "He was sorry; no one available," and "get away home to dinner."

With regard to ships' surgeons. A ship left its first port without a doctor; one had been engaged, but declined at the moment. The shipping people were naturally perturbed and we were urged to strain every effort to secure one before the ship left this port. We found a medical man at his hotel at about seven in the evening, and eventually got him to pack his bag and proceed with us to the ship. We got him on board and it was about midnight before we saw our own home. It was imperative that this ship carried a surgeon and it might have been a serious matter if she had left without one. The man we induced to go was offered considerably more than the usual rate of pay, and we were well paid for seeing the matter through. Would it have been reasonable to expect a salaried officer to go running about at night to fix up such a matter?

We think Dr. Harlin's suggestion a good one, that approved medical agents be duly registered by the B.M.A. and that only such be recognised. It would bring the agents into closer touch with the branch secretaries and the latter could confidentially give instructions to the agents from time to time, which would be to the advantage of the Association. Further, it might be impressed upon the agents that the applicant for appointment, locum work, etc., if not already affiliated, should be brought in touch with the secretary.

If the B.M.A. do their own agency work, with characteristic "British pluck" we should still keep our signs out, and naturally be a commercial opposition. But, as the B.M.A. would themselves be an opposition, we must, perchance, be neutral. Would not this be confusing as against what we have suggested? It would simply be "all's fish that comes to our net." Many of our old clients would not care to pass our doors, and we venture to predict that we

be dealing with (from a B.M.A. point of view) friend and foe alike.

Well, we have stated our case "modestly." Mayhap some will say "there is no modesty about it." If this gets into print it will be stated, and that is the main point (i.e., from our point of view).

Yours, etc.,

"MEDICAL AGENT."

DIFFICULT FORCEPS CASES.

Sir,—Practitioners of midwifery often experience much inconvenience in the above cases, owing to the difficulty of keeping the patient in the cross-bed position. If much prolonged traction is required, the patient is drawn to the foot of the bed, the operator finds himself at a disadvantage for further traction, and the patient has to be replaced, perhaps several times, thus causing extra work, and prolonging of the operation. With ample assistance, which is not always available, especially in country practice, the difficulty may be overcome, but forcible restraint has its drawbacks, both from the nurse's, and patient's, point of view.

Some years ago I devised a simple apparatus, which I have found helpful, and by the use of which the patient is kept in a suitable position, while delivery is effected. The apparatus or "obstetric harness," consists of two pieces of strong canvas, each 24 by 12 inches, at the ends of each is stitched a piece of leather, which is so cut, that from its base proceed three strips, which terminate at an apex, where they form a loop, to which strong piece of cord, 6 feet in length, is attached. Formerly, I placed the bands in position after the patient was anaesthetised, but I have found it better to arrange them before anaesthesia, as the patient can move herself and thus assist. A few words of assurance dispel any trepidation in view of the proceeding. One band is passed under the patient, and placed behind the shoulders, the other is applied to the abdomen. As soon as she is ready for application of the forceps, and suitably placed, the cords attached to the back piece are pulled tight, and fastened to the foot of the bed at its right side; those attached to the abdominal band, are fastened to the head of the bed, on its left side. The inconvenience often experienced from the feet and legs slipping down and getting in the operator's way, is obviated by a third narrow band, which is padded and covered with waterproof. This is placed in the flexure of the knees, which are then drawn up, a long strap secures this position, by being passed under the arm, and around the neck, after the manner of the strap of a Clover's crutch, or it can be secured to the opposite side of the bed. When neatly rolled up, the apparatus is easily carried in the obstetric bag. Thinking that the procedure may be useful to other practitioners, I have ventured to give a description of it.

Yours, etc.,

J. J. SANGSTER, Snr.

Glenelg, S.A.,
June 30th, 1914.

Vital Statistics.

The Government Statistician for New South Wales in his monthly report dealing with the vital statistics of the metropolis of Sydney for May, 1914, records a slightly higher death rate as compared with the average of the same month for the previous five years, a slightly lower birth rate and a slightly lower illegitimate birth rate. The death rate stands at a figure corresponding to an annual rate of 10.66 per 1000 of population, the birth rate at 25.66, and the illegitimate birth rate of 2.05. The death of 72 infants under one year of age per 1000 birth have been registered; 67 per cent. of the deaths were assigned to diarrhoea and enteritis, out of a total of 645, and 59 were assigned to cancer, 55 to diseases of the heart, 47 to developmental diseases of infants, 46 to pulmonary diseases, 38 to phthisis, 33 to cerebral haemorrhage, etc., 31 each to epidemic diseases and accident, 30 to nephritis and 26 to senility. Of the epidemic diseases, typhoid caused 10 deaths, diphtheria 10, whooping-cough 7 and scarlatina 2. No direct correlation can be traced be-

tween the infantile mortality or general mortality, and the mean temperature or humidity. The report contains a full analysis of the causes of death, according to locality, age, incidence, etc.

The report of the Medical Officer for Hobart shows that during the month of May, the death rate corresponded to an annual death rate of 9.36 per 1000 persons living. There were 4 deaths from cancer, 4 from heart disease, 3 from pneumonia, 2 from enteritis, 2 from senile changes, 2 from iranition, and 1 from phthisis. Eight children under one year of age died. One hundred and seven births were registered in the district, and 92 in the city proper.

Personal.

Dr. C. H. Northcott has entered into partnership with Dr. Jenner of Leichhardt, Sydney.

Dr. L. Halse Rogers has bought Dr. Northcott's practice at Penrith, New South Wales.

Dr. Isabel Ormanston, the Australian representative on the Victorian Health League, who is at present in England on furlough, intends getting some hospital experience in London and on the Continent before returning to Australia.

Dr. Haynes, of Richmond, Victoria, appointed to the position of Medical Health Officer.

Dr. J. R. Davis has removed from Dudley, N.S.W., to Bay Street, Port Melbourne, Victoria.

Dr. J. A. Wallace has been transferred from The Hospital for the Insane, Gladesville, N.S.W., to Parramatta Hospital for Insane, N.S.W.

Dr. E. J. Day has removed from Springwood to St. Mary's N.S.W.

Dr. Richard Bell has removed to City Road, Sydney, from St. Mary's, N.S.W.

Dr. Cresswell Howle has commenced practice at 43 Bradley's Head Road, Mosman, Sydney.

Dr. J. S. Milne has commenced practice at 218 Miller Street, North Sydney.

Professor Joachimthal, director of the Orthopaedic Clinic of the Charité, Berlin, died in a sanitorium at the age of 52. The Professor died from pneumonia, and a nervous condition, the pathology of which is at present obscure. It is believed that the disease was acquired by infection in the course of some experiments conducted by him in the laboratory.

We learn that Dr. G. P. O'Dea, of Murat Bay, South Australia, who met with a serious motor cycle accident on June 9th, is now making progress toward recovery.

Dr. E. M. Humphrey was entertained at a farewell gathering of the Agricultural and Industrial Society of Lismore, N.S.W., on June 27th, and was presented with an address. In the evening the Musical Festival Committee also entertained him. The speakers were enthusiastic in their praise of Dr. Humphrey, whose public spirit is much appreciated. Dr. Humphrey has left Lismore.

The late Mr. Alfred Stokes, by his will, bequeathed £1,000 to the Forbes District Hospital, New South Wales, payable in ten equal monthly instalments of £100.

Dr. and Mrs. H. Dean Bamford left for Auckland for Wellington on June 26th.

Dr. Sydney Smith has been appointed to the position in the Public Health Department at Dunedin, recently vacated by Dr. Champaloup, now Professor of Bacteriology in the Otago University. Dr. Smith received his medical education in the New Zealand and Edinburgh Universities. In 1913 he obtained the diploma in Public Health of the Royal Colleges of Physicians and Surgeons of Edinburgh and Glasgow. At Edinburgh, Mr. Smith was assistant to Professor Harvey Littlejohn.

Mr. W. A. Callaway, deputy inspector general of penal establishments, has been re-elected chairman, and Dr Ernest Jones, inspector general of the insane, has been elected deputy chairman of the Tender Board for the ensuing twelve months.

Proceedings of Australasian Medical Boards.

The following persons have been registered as legally qualified Medical Practitioners in their respective States, viz.:—

TASMANIA.

(During the year, 1913.)

| | |
|------------------------------------|--|
| Atkins, Charles Norman | M.B., B.S. (Melb.) 1911. |
| Bertram, Thomas Dun | M.B. (Glasg.), 1889. |
| Brett, Edward Seymour | M.B., B.S., 1901, B.Sc (Edin) 1904. |
| Brettingham-Moore, Edward | M.B., Ch.M. (Syd.) 1913. |
| Crawford, Francis Bartlett | M.B., B.S. (Melb.) 1913. |
| Crooks, Arthur Augustus | M.B., Ch.B. (Melb.) 1913. |
| Davies, Alfred Joseph | L.R.C.P., L.R.C.S. (Edin) 1890, L.F.P.S. (Glasg.) 1890. |
| Hollond, Henry Howick | M.R.C.S., L.R.C.P. 1907. M.B., B.S. (Lond.) 1908. |
| Jackson, Henry Hollister | L.R.C.P., L.R.C.S. (Edin) 1901, L.F.P.S. (Glasg.) 1909. |
| Kaye, William Holland | M.R.C.S., L.R.C.P. (Lond.), 1904. |
| McClintock, Samuel Alexander | M.B., Ch.B. (Edin.) 1904, D.P.H., R.C.P. (Edin.) and R.F.P.S. (Glasg.) 1910, M.D. (Edin.) 1913. |
| Patrick, James Finlay | M.B., Ch.B. (Melb.) 1912. |
| Thomson, George | M.B., B.S. (Edin.) 1899. |
| Volkman, Ronald | M.R.C.S., L.S.A. (Lond.) 1880. |
| Whetter, Leslie Hatton | M.B., B.S. (Univ. New Zealand) 1910. |

Medical Appointments.

Dr. Thomas J. Hughes, D.P.H., Camb., has been appointed District Health Officer in Wellington, New Zealand.

Dr. Keith Inglis has been appointed to the Medical School, Sydney University, as Demonstrator.

Dr. R. L. Brown has been appointed Visiting Surgeon at the State Penitentiary, and Medical Officer in charge of the Lock Hospital, N.S.W.

Dr. R. H. Morrison has been appointed Surgeon, Drs. H. W. Robertson and B. Milne Sutherland, Assistant Surgeons, and Drs. Sherwin and S. H. Allen, Obstetric Surgeons to the Women's Hospital, Melbourne.

ROYAL AUSTRALIAN NAVY.

Vacancies for Surgeons.

Applications are invited from persons qualified for appointment as Surgeon to the Royal Australian Navy. There are three (3) vacancies. Rates of pay under present Regulations range from £387 16s 3d to £547 10s, including deferred pay, but exclusive of allowances for uniform and rations, amounting to £39 10s 10d per annum.

Candidates, whose ages must not exceed 28 years, or in special circumstances 30 years, must be duly registered practitioners under States Medical Act.

Further particulars may be obtained from the Naval Secretary, Navy Office, Lonsdale Street, Melbourne, with whom applications close on 1st August, 1914, and from the District Naval Officer, Brisbane, Sydney, Largs Bay (S.A.), Fremantle, and Hobart.

T. TRUMBLE,

Acting Secretary.

Melbourne, July 4, 1914.

Diary for the Month.

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| July 1.—Victorian Branch, B.M.A.: Ordinary Meeting. |
| July 7.—New South Wales Branch, B.M.A.: Council Meeting. |
| July 8.—Pediatric Society (Melbourne). |
| July 10.—New South Wales Branch, B.M.A.: Clinical Evening. |
| July 15.—Melbourne Hospital Clinical Society. |
| July 21.—New South Wales Branch, B.M.A.: Council Meeting. |
| July 28.—New South Wales Branch, B.M.A.: Committee Meetings. |
| July 28.—Eye and Ear Society (Melbourne). |
| July 31.—New South Wales Branch, B.M.A. |
| July 31.—Melbourne Hospital Clinical Society. |

Births, Marriages, and Deaths.

The charge for inserting announcements of Births, Marriages and Deaths is 5s., which sum should be forwarded in money orders or stamps, with the notice, not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

Births.

BUTLER.—June 4th, at Beverley, Western Australia, the wife of Stanley Butler, M.A., M.B., B.S.—a daughter.

Books Received.

X-RAYS. AN INTRODUCTION TO THE STUDY OF RONTGEN RAYS. by G. W. C. Kaye, D.Sc. Sydney, Geo. Robertson, Deny. 8 vo., of 252 pages. Price, 5/- net.

DISEASES OF THE RECTUM AND ANUS, a practical handbook by P. Lockhart-Mummery, F.R.C.S., England. London, Bailliere, Tindall and Cox; Sydney, Bruck and Thomson. Deny 8 vo., containing VIII. and 348 pages, with 102 illustrations. Price, 7/6 net.

Warning Notices.

Medical Practitioners are requested not to apply for any appointment referred to below without having first communicated with the Honorary Secretary for the Branch of this Association:

| Appointment. | Hon. Secty. of Branch. |
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| Brisbane United Friendly Societies' Institute, Lodges, etc., of the Longreach, Central Queensland, and Warwick Friendly Societies, Darling Downs, Queensland. | Queensland Branch, B.M.A., Wickham Terrace, Brisbane. |

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| Goulburn Friendly Societies' Association, at Goulburn, N.S.W. | N. S. Wales Branch B.M.A., 30-34 Elizabeth Street, Sydney. |
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| Swan District Medical Officer. | Western Australian Branch B.M.A., 230 St. George's Terrace, Perth. |
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| Contract Practice in Western Australia. | Western Australian Branch B.M.A., 230 St. George's Terrace, Perth. |
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| Lodges at Casino, N. S. Wales. | N. S. Wales Branch B.M.A., 30-34 Elizabeth Street, Sydney. |
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EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to the "Medical Journal of Australia" alone, unless the contrary be stated.

All communications should be addressed to "The Editor," "Medical Journal of Australia," B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.